

Watercolour painting depicting the wreck of the *SS Solglimt* in Ships Cove, Marion Island by Captain Anders Harboe-Ree (1908)

**AN ARCHAEOLOGICAL STUDY OF THE *SOLGLIMT* SHIPWRECK SURVIVOR
CAMP ON SUB-ANTARCTIC MARION ISLAND**

by

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DECLARATION

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An archaeological study of the *Solglimt* shipwreck survivor camp on sub-Antarctic Marion Island.

I declare that the above dissertation is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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ABSTRACT

In a tale of survival, dubbed that of the “South Seas Crusoes”, a group of men overcame the odds by setting up camp on a deserted volcanic sub-Antarctic island in the middle of the Southern Indian Ocean. This group of men formed the crew of the Norwegian SS *Solglimt* sealing vessel which had wrecked on the sub-Antarctic Marion Island in October 1908. More than a century later remains of the shipwreck of the SS *Solglimt* can still be found lying exposed below the water in the bay of Ships Cove. In the valley north of the bay, the remnants of the shipwreck survivor camp associated with the wreck holds hidden stories of a terrestrial maritime landscape formed out of tragedy and the need to survive. It is mainly the remains of this camp which forms the basis of the research and discussion for this dissertation. The following study is not only an attempt to add to our knowledge and understanding of the archaeological remains on Marion Island, it is also to add to an existing body of knowledge involving shipwreck survivor camps.

The remains on Marion Island have produced the perfect opportunity to fill gaps within the discipline of Maritime Archaeology, especially in South Africa where too often emphasis is placed on shipwreck studies and not enough on the events taking place before or after the crisis event. The following dissertation uses archaeological techniques alongside historical documents as a way to better understand the socio-cultural behaviour of survivors during events of disaster, isolation and the necessity to survive. The study will be used as a comparison to similar studies around the world and hopes to add to an existing body of knowledge involving survivor camps and disaster-response studies from an archaeological and anthropological perspective.

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Chapter 1

Introduction

“Survivors function best when peril is at hand” ~Jimmy Buffett

How much truth can be found in a statement such as the famous song lyric above and can it be adequately applied to describe the crew of the *SS Solglimt*? This is something that the following dissertation will attempt to explore. In a tale of survival, dubbed that of the “South Seas Crusoes”, a group of men overcame the odds by setting up camp on a deserted volcanic sub-Antarctic island in the middle of the Southern Indian Ocean (Wellington Evening Post, 17 February 1909). In order to understand how they found themselves in such an unfortunate predicament and how they dealt with being marooned in the middle of nowhere, we start the story with their journey, more than a century ago, aboard the *SS Solglimt*. It began with a quest to make money in a trade that exploited the hunt for Sea-Elephants and Fur Seals and ended with the loss of their ship, adaptation to living life on a barren island and a fortuitous rescue only a month later. The *SS Solglimt*, which translates into “Sunbeam”, was a Norwegian steamer under the command of Captain Anders Harboe-Ree. The ship made her first voyage as a newly outfitted sealer and under her new name in December 1907 to the Crozet Islands. Outfitted with a crew of seventy-five men and equipment for hunting and processing seals for their blubber and furs (Newcastle Daily Chronicle, 9 January 1909); she was only on her second voyage to the Prince Edward Islands when she foundered on a reef at Marion Island on 16 October 1908 (Shipping Control Journal nr. 841, 1909; Marsh, 1948). The vessel struck an uncharted rock beneath the surface of the water which ultimately led to a breach in her hull. In an effort to save his crew, Captain

Ree steered the vessel to ground on the beach in a cove on Marion Island. The quick thinking of their Captain allowed the crew to make it ashore and gave them the time to salvage what they could from the vessel's supplies before the ship broke up and sank further below the surface of the water. These supplies were then used to establish a camp in a nearby valley and provided the survivors with provisions for at least three months. Fortunately they had only a month to wait before their liberation came in the form of two Nova Scotian vessels, at which time they left their camp behind (Captain Harboe Ree, Letter to *Morgenbladet*, 4 December 1908). More than a century later remains of the ship can still be found lying exposed below the water in the bay and remains of the survivor camp are still evident on both the beach and scattered throughout the valley. It is mainly the remains of this camp which forms the basis of the research and discussion for this dissertation. With too much focus being placed on shipwrecks in maritime archaeology not enough research has been undertaken on the circumstances surrounding the activities taking place before and after such events occurred (Gibbs, 2003).

Maritime archaeology in South Africa has been no different with too much emphasis being placed on shipwrecks as the primary focal point. Archaeological studies have focused predominantly on the physical remains of wrecks, identifying and analysing sites through the lenses of ship construction methods or the remains of the cargo on-board at the time. In contrast, research into understanding other aspects related to maritime heritage such as the survivor camps often associated with these shipwrecks or non-shipwreck related sites such as stone-walled tidal fish traps has only been advancing slowly (Hine,

2008; Hine et al. 2009). There have been a few archaeological studies that have attempted to look at the remains of shipwreck survivor camps, the circumstances surrounding the development of these camps and the impacts of the events on those who survived the tragic loss of their vessel. For the most part South African survivor camp studies have, however, concentrated on sixteenth and seventeenth century merchant vessels with research focusing primarily on identifying and locating sites through the analysis of the archaeological remains and historical accounts. These included the study of the *São Gonçalo* (1630) camp-site remains in Plettenberg Bay (Smith, 1986), the search for the camp of the Dutch East India ship the *Haerlem* (1647) (Mavridinov, 1995), the test excavations of the camp-site *Nossa Senhora de Atalaia do Piheiro* (1647) (Hall, 1978 in Burger, 2003) and the larger Port Edward Project that undertook a multi-year study on locating the wreck of the famous Portuguese galleon the *São João* (1552) and the camp-site of its survivors. The *São João* in particular has attracted more in depth study as it is the earliest known wreck along the southern African coast and for many years its location remained elusive (Burger, 2002, 2003; van Tonder & Harris, 2006).

As part of the latter study, a comparative analysis was carried out on similar Portuguese wrecks and their associated camps in an attempt to develop a predictive model to use in the search and location of the *São João* sites. Using both archaeological evidence and historical documentation the research looked at seven wrecks that occurred over the space of a hundred years and the general characteristics distinguishable across the various locations and construction of the camps. These included the *São Bento* (1554), *São Thomé* (1589), *São João Baptista* (1622), *São Gançalo* (1630), *Nossa Senhora De*

Belem (1635) and the *Nossa Senhora de Atalaia do Piheiro* (1647). The wrecks all had in common that they originated from Portugal, were mostly carrying merchant goods from the East in the form of Chinese porcelain, textiles such as carpets and quilts, or spices such as pepper and cinnamon. Some of these vessels carried both passengers and crew including women and children in addition to the seamen and soldiers on-board (Burger, 2002; van Tonder & Harris, 2006).

Similarities can be drawn to that of the *Solglimt* survivor camp, as will be discussed further on, in terms of the relationship the survivors had with the shipwreck and certain aspects of the development of camp such as the demarcation of areas for specific activities. The context in which the above sites originated and developed was, however, quite different in many respects to that of the *Solglimt*. Whereas most of the wreck events, such as the *São João* (1552), *São Gonçalo* (1630), *Haerlem* (1647) and *Nossa Senhora de Atalaia do Piheiro* (1647), occurred in the age of exploration, the vessels carried a mixture of men and women aboard and foundered on a mainland that had a larger number of resources available. The wreck of the *Solglimt* took place in an age and location where the focus was on industrial expansion; the crew was made up of only sea-hardened men who found themselves on an isolated island with limited resources available to them.

Even though the work done thus far on South African sites has attempted to better understand survivor camps and a different aspect of maritime

archaeology, the research has still largely focused on the camp-sites from an archaeological study of the physical remains in an attempt to locate and identify sites (van Tonder, 2005, 2006). Inevitably, this has left large gaps within the discipline that need to be filled with new forms of research and this is where this study makes its contribution. The discussion presented in this dissertation will, for that very reason, not only look at the remains of a survivor camp associated with a particular shipwreck but more significantly the ability of the survivors to adapt in a new landscape. In particular, the study will attempt to bring a social analysis to the site that explores the behaviour of the survivors as they developed a survival strategy and used the limited resources available to them.

Similar studies have been carried out on sealer survivor camps on other islands in the sub-Antarctic region such as the remains on Heard and Macquarie Islands (Lawrence & Davies, 2011). Sites have also been found and studied on islands in the Australasian and Micronesian regions such as the *Sydney Cove* (1797) site on Preservation Island and the *Antelope* (1783) site on the Palau Islands (Townrow 1988; Nash 2002, 2004; Gibbs 2003, 2006a; Clark & De Biran, 2010). These studies provide a good comparison to that of the context of the *Solglimt* camp and will be used to better understand the survivor camp within an international framework. Although, studies have been undertaken on sealing sites in the Antarctic South Shetland Islands these camps were purposefully occupied during the hunting seasons and weren't particularly those put up by survivors. These sites do, however, provide a good indication and comparison of the types of artefacts and socio-cultural behaviour generally associated with sealing camps and items survivors would have had at their

disposal (Zarankin & Senatore, 2005; Pearson et al. 2010). Nonetheless, for the purpose of this dissertation the discussion will focus mainly on camps that were established by the survivors of shipwrecks with particular focus on sites of a similar nature such as the sealer sites.

The research was undertaken on Marion Island, one of the two Prince Edwards Islands which form the Republic of South Africa's furthest territory. The islands have for a long time been a natural haven for a number of seal and bird species, resulting in their becoming hunting grounds for sealers from the seventeenth through to the twentieth century. For many years they were a hot spot for the sealing industry and a place to make shelter for the whaling industry. Vessels came from Cape Town and as far away as England, North America and Scandinavia to take part in the economic exploitation for trade in seal oils and fur. The sealing and whaling activities that took place during this time have therefore left many traces of their activities behind in both the archaeological and historical record (Cooper & Avery, 1986; Cooper & Headland, 1991; Hänel & Chown, 1998).

The research into the form and history of the survivor camp is a component of a larger project called the Archaeologies of Antarctica. This project is run by Jaco Boshoff of Iziko Museums of South Africa through the South African National Antarctic Programme (SANAP). The overall aims of the project are to take a closer look at the under-researched material culture remains of the Prince Edward Islands with an initial focus on the larger and more accessible Marion Island; starting with a case study of Ships Cove. The aim of this Masters

research was therefore to focus in greater detail on the remains of Ships Cove, an area known and named for the wreck of the *Solglimt* that foundered in the Cove in October 1908. The area is also known to have had more than one period of occupation, as the survivors of the *Seabird* which wrecked on Prince Edward Island in 1912, re-used the site for their camp (Marsh, 1948).

The purpose of the study is thus to add to our knowledge and understanding of the archaeological remains on Marion Island. It is also to add to an existing body of knowledge involving shipwreck survivor camps and disaster response studies. In order to achieve this, the research had four main objectives. The first objective was to expand on previous archaeological studies on Marion Island such as Tom Grahams' work in 1989 and to further investigate the archaeological remains specifically in Ships Cove through geographical and archaeological survey. The second objective was to use the results of the survey to identify and record the remains of the survivor camp of the SS *Solglimt* (1908) and possibly that of the *Seabird* (1912). The third objective was then to use the data gathered on Marion Island as well historical records to further determine whether it could provide information regarding the setup and organization of the survivor camp after the crisis event. Part of this objective was also to explore the response of the survivors to their new environment and the possible influence of cultural behaviour such as ship board culture on that response. In addition to these, the fourth objective was to contextualize the Ships Cove sites within the broader theoretical framework of survivor camp archaeology by comparing it to similar studies conducted at other, similar sites. This was done through an investigation of both the archaeological remains found in Ships Cove and historical records collected by the Antarctic Legacy of

South Africa Project. The latter came in the form of letters to newspapers, newspaper articles, journal extracts and statements given in a Marine Inquiry Court report.

The project thus attempts to explore a few key questions in an effort to learn more about the event that occurred in Ships Cove. Through the examination of the data we explore the association of the archaeological assemblage found on land with that of the wreck, are the remains indeed that of the *Solglimt* survivor camp? Secondly, what can the archaeological remains tell us of the organization of the long ago survivor camp and what can this information tell us about particular activities? Thirdly, can we see a relationship between the wreck of the *Solglimt* and the survivors; could shipboard practices or cultural identity have influenced the setup of the survivor camp and the activities that took place there? (Gibbs, 2006b) Lastly, is there more than one level of occupation visible in Ships Cove?

In order to explore these questions, the dissertation provides the reader with a brief historical overview of the Prince Edwards Islands, before looking at the research methodology and analysis of the data. Chapter two looks at the history of the islands but focuses particularly on Marion Island and its landscape. It then considers the sealing industry and activities that occurred on the island before looking more closely at the context within Ships Cove.

Chapter three contains a review of the geographical and archaeological surveys that were undertaken alongside the sub-surface investigations of particular loci

in Ships Cove valley. This chapter also explores the different loci and the remains that were uncovered, describing the context within which they were found. It also goes through a brief analysis of what the data shows us.

The fourth chapter goes into a more detailed discussion looking at the archaeological remains in comparison to the historical accounts given by the survivors in particular that of the Captain, Anders Harboe-Ree and the ships secretary, Asbjørn Bjørnstad. The discussion draws on both the archaeological remains and historical records in an attempt to fit the camp remains within Clark and de Birans' (2010) "four activity approach", which they developed to analyze the remains of the *Antelope* (1783) survivor camp. Further detail is developed by applying Gibbs' (2006b) models on salvage and disaster-response and using the list of categories and considerations he developed whilst looking at the remains of sites such as the *Sydney Cove* wreck (1797) and *Zeewyck* (1727) camps. In the end, the discussion attempts to critically answer the above mentioned research questions and whether it is within the scope of this dissertation to fully explore them.

Chapter 2

Historical Overview

2.1 Introduction

In order to fully understand the context in which the founding and habitation of the shipwreck survivor camp occurred, the following chapter takes a look at the history of Marion Island and the sealing industry in general. It looks at the landscape that these survivors would have found on the island and the tools of the trade that they may have had at their disposal. It is an important chapter as it will give the reader a deeper understanding of the situation in which the SS *Solglimt* crew would have found themselves and what resources they may have found to assist them in surviving in such a rugged and deserted terrain.

2.2 Marion Island

2.2.1 The History of the Prince Edward Islands

The Prince Edward Island (PEI) group is made up of two islands; Prince Edward Island and Marion Island. The islands are situated approximately 2130 kilometres southeast of Cape Town, South Africa and are located within the sub-Antarctic region in the latitude also known as the roaring 40's. They are part of a group of several islands which form the Southern Indian Ocean Province of this region.

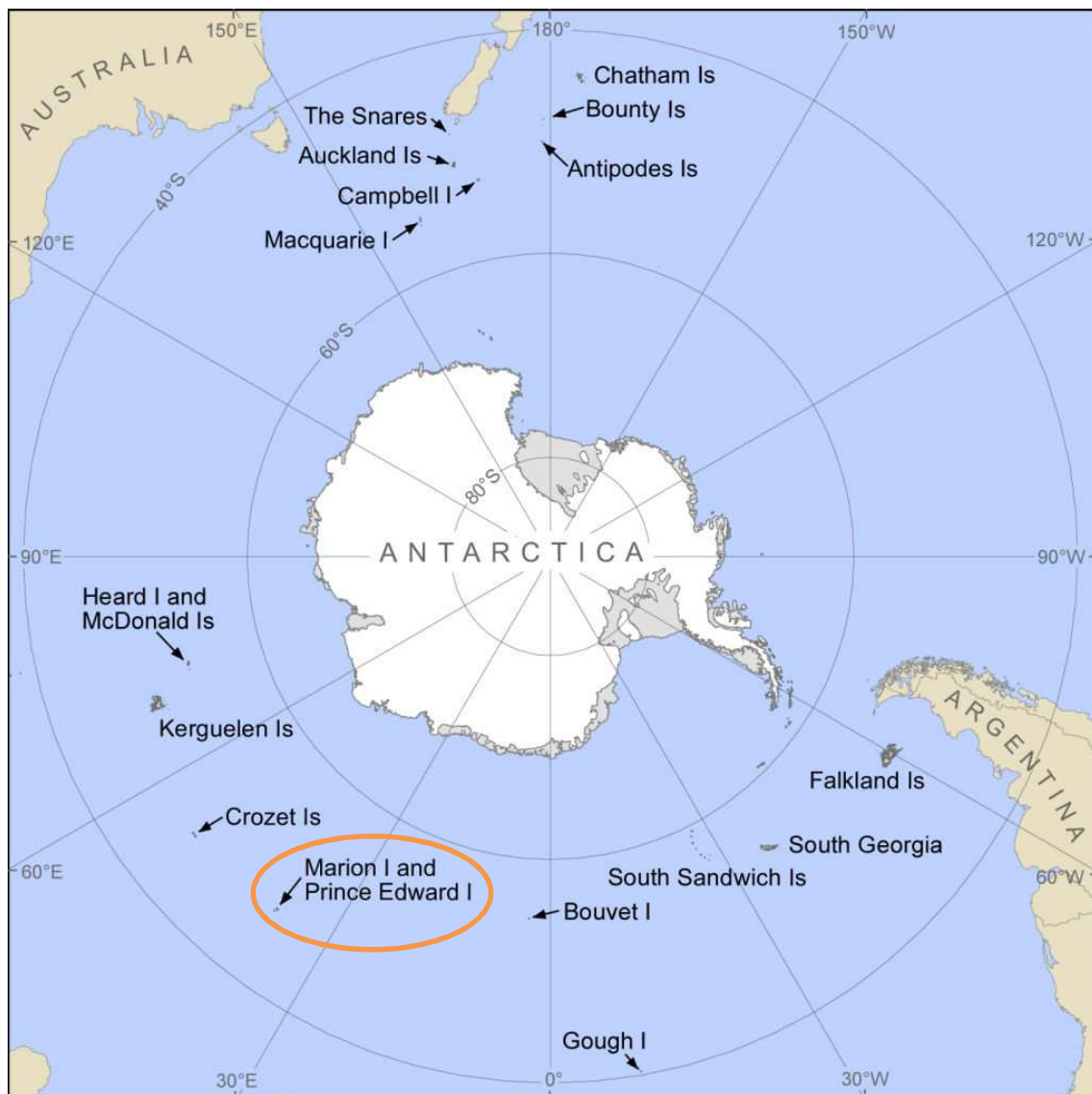


Figure 1: Map of the sub-Antarctic Region

(Retrieved 01 Sep 2016 from <http://www.antarctica.gov.au/magazine/2011-2015/issue-21-2011/subantarctic-forum/subantarctic-islands-in-the-spotlight>).

The Prince Edward Islands were first spotted by the Dutch as early as the seventeenth century. Later in 1772, French naval officer Marion du Fresné, after whom Marion Island was named, came across the islands on his voyage to Antarctica. A few years later in 1776, the famous Captain James Cook came across the islands and called them both the Prince Edward Islands. The first landfall on the islands took place only later in the early nineteenth century as

the islands started attracting people from the whaling and later the sealing industries (Cooper & Headland, 1991; Hänel & Chown 1998).

Many northern-based whalers, such as the Norwegians and Americans, started to head south to exploit the resources found in abundance on the islands in the sub-Antarctic region. Through fear that Norway might possibly annex the PEIs; the then Union of South Africa started deliberations and put mechanisms in place as early as 1909 that ultimately led to the annexation of the islands in the late 1940s (General Despatch, 27 July 1909). Marion Island was the first to be annexed in December 1947 whilst Prince Edward was annexed later in January 1948 under the Prince Edward Islands Act (No. 43 of 1948). Both islands now form part of the Western Cape Province of the Republic of South Africa (RSA) and are the country's southernmost and only remote territory. The management of the islands are mostly governed by the National Environment Management Act (No. 107 of 1998) (NEMA), the National Environment Management: Protected Areas Act (No. 57 of 2003) (NEMPAA) and the National Environmental Management: Biodiversity Act (No. 10 of 2004) (NEMBA). The PEIs fall under the custodianship of the Department of Environmental Affairs who are responsible for the management of the islands in accordance with the relevant national legislation and the Prince Edward Island Management Plan (PEIMP V 0.2, 2010).

Both of the Prince Edward Islands were declared a Special Nature Reserve in 1995, under the Environment Conservation Act (No. 73 of 1989) and were designated as a Ramsar Wetland of International Importance in 2007 under the

Convention on Wetlands of International Importance (Ramsar Convention 1971) (PEIMP V 0.2, 2010).

Cultural and archaeological sites on the island are protected under the National Heritage Resources Act 25 of 1999. Since the islands fall under the Cape Town magisterial district, terrestrial sites fall under the jurisdiction of Heritage Western Cape; whilst the sites below the high water mark fall under the jurisdiction of the South African Heritage Resources Agency (NHRA, 1999; PEIMP V 0.2, 2010). In 2014, the islands were nominated for national heritage status and are currently in the process of being graded as a Grade 1 national heritage site under section 27 of the NHRA (SAHRA report, 2014). Currently, the only human occupants are a team of more or less twenty scientific and maintenance personnel who reside at and carry out research from the science base as well as manage the meteorological station on Marion Island.



Figure 2: Image of the new base on Marion Island.

These individuals live and work on the island for thirteen month terms from April to April. Prince Edward Island remains uninhabited and only sees research visitors possibly every four years. Since the islands are only accessible by sea, an annual relief voyage used to occur twice a year but now only happens once a year during the months of April and May on the *mv SA Agulhas II*. The main purpose of the voyage is to replenish supplies and to replace the team staying on Marion Island. This voyage also allows scientists to conduct further research on ongoing projects on the island such as the Marine Mammals Research programme, the Vegetation Biomass and Nutrient Budget Project or the Archaeologies of Antarctica project. It is also an opportunity for the Department of Public Works to undertake maintenance of the base and field huts. Being a special nature reserve, there are very strict requirements for what type of foods and plants are allowed on the island. This is so that the introduction of alien species are minimised and the sensitive ecology of the islands are protected.

2.2.2 The Marion Island Landscape and Environment

Marion Island is the larger of the two Prince Edward Islands with an area of 290 km² and a rugged coastline that runs approximately 72km in length. It has a few sheltered bays made up of both sandy and rocky beaches with the rest of the coast comprising mainly of high rising cliffs. Across the water, Prince Edward Island is relatively smaller with an area of approximately 45 km² and has a coastline even more rugged than its sister island. The islands form the twin peaks of a volcano that is still active with lava flows taking place as recently as the 1980s on Marion Island (Hänel & Chown 1998).

The terrain on Marion Island is fairly rugged made up of steep grey and black basalt lava ridges and hills, fern and moss covered slopes and very wet marshy lower lying areas. The island has several hills which are made up of reddish at times black volcanic sediment also known as scoria cones, with the highest point rising up to an altitude of 1230 metres. At an altitude of 1000m you will find the ice plateau, a flat glacier that has gradually been melting over the years. There are also many fresh water lakes and streams on the island (Hänel & Chown 1998).

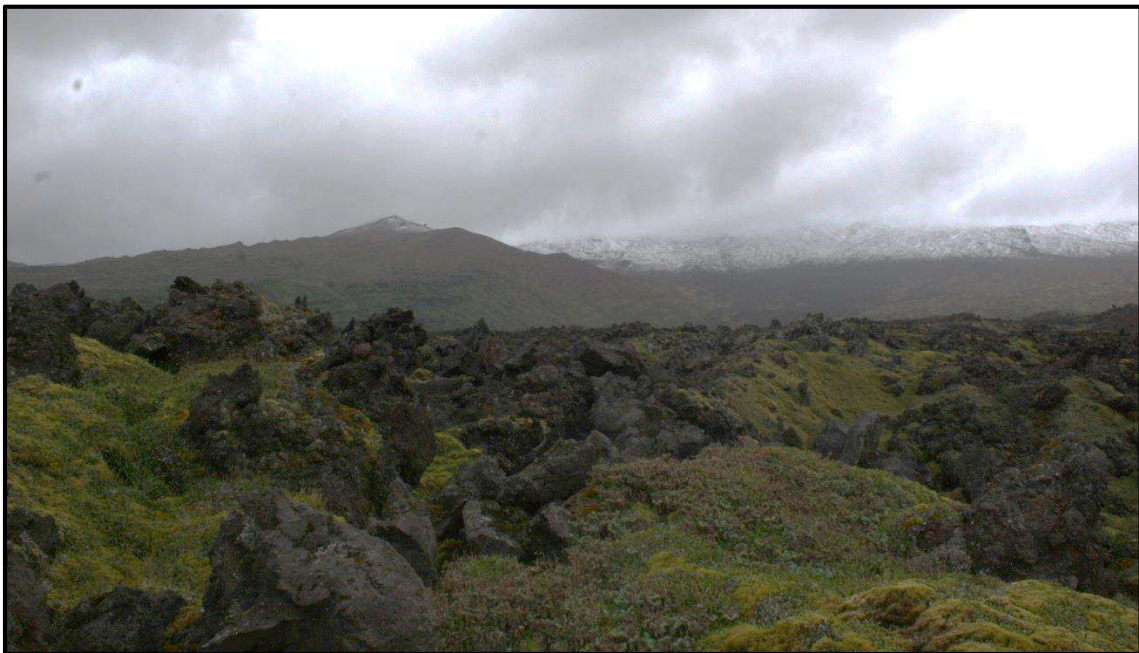


Figure 3: Santa Rosa Valley, Marion Island.

The main types of vegetation found on the island are small, low-growing plants known as bryophytes, ferns such as the *Blechnum penna-marina* found predominantly covering the slopes of hills, different types of club mosses and flowering plants such as the *Azorella* plant and the Kergeulen Cabbage. The latter is high in vitamin C and is historically famous amongst sailors and sealers for its use against scurvy. There are a number of alien species that have been

introduced to the island but due to the harsh environment there are no trees or naturally growing vegetables (Hänel & Chown 1998).

The islands are a natural haven and breeding ground for a number of bird and seal species. There are twenty nine known species of birds breeding on Marion- and Prince Edward Island. These include penguins such as the King Penguin, Macaroni penguin and the Gentoo penguin. The islands are also home to the Wandering Albatross, Lesser Sheathbill also known as the Paddy bird and a variety of other types of seabirds (Hänel & Chown 1998).

The most common mammals breeding on and indigenous to the island are the Elephant seals (*sp. Mirounga Leonina*) and two types of fur seals; these are the Antarctic Fur Seal (*sp. Arctocephalus gazelle*) and sub-Antarctic Fur Seal (*sp. A. tropicalis*). Another mammal breeding on the island is the house mouse, an alien species introduced to the island in the 1800s by visiting ships. There are also a number of marine mammals that visit the islands such as the killer whales and other cetaceans (Hänel & Chown 1998).

It is therefore no surprise that the PEIs became a hot spot, attracting vessels from both the whaling and sealing industry during the 19th and 20th centuries. The natural resources, although somewhat limited, and natural harbours such as Ships Cove meant that it was also a place where vessels could make shelter and establish a base from which to hunt.

2.2.3 Cultural History/Sites on Marion Island

As early as the 1800s, sealing and whaling vessels are recorded as coming from all over the world to exploit the natural resources on and around the Prince Edward Islands. The abundance of seals especially such as those on Marion Island was a major attraction to sealers coming from places like England, the United States, Nova Scotia, Norway and South Africa. In one place they could hunt seals for their oils and fur but also take advantage of the whales breeding around the islands. These activities have therefore left many traces behind in both the archaeological and historical record (Cooper & Avery, 1986; Hänel & Chown, 1998). There are many sites that contain material remains left behind from sealers making use of the island as well as ship crews that had the misfortune of finding themselves wrecked in the waters surrounding the Prince Edward Islands. Hänel & Chown (1998) mention at least eight recorded vessels that foundered, five at Prince Edward including that of the *Seabird* crew and three at Marion Island including that of the *Solglimt* crew.

Despite the looting and souvenir hunting that has occurred on Marion Island over the years, there are at least eighteen known areas around the island that still retain cultural remains from as early as the nineteenth century to the mid-twentieth century.



Figure 4: Map illustrating general historical/cultural site locations (in red) around Marion Island.

Historical records of known landings suggest that seal hunting crews had been visiting the islands “from at least 1802 [up] until 1930”; only a few years before the islands were annexed in 1947 (Cooper and Avery, 1986).

Table 1 below is a list of the sites and brief descriptions of artefacts found on Marion Island (Avery and Cooper, 1986; Boshoff, Hart & Loock, 1997; Boshoff 2011): See Appendix A for Images.

Site Name	Associated Artefacts
1. Transvaal Cove	<p>Location of old and new research base, a number of artefacts collected over the years remain at the base such as the anchor displayed in the hub of the new base, cartridges found inland marked with H. Utendoerffer, timber remains, brass piping removed from the SS <i>Solglimt</i> in the 80s and remains of traps used during the cat hunting period amongst other items.</p> <p>Remains of Le Grange's Villa and staircase leading up to the old base</p> <p>"H.M.S.A.S. Transvaal, 29/12/1947" brass annexation plaque</p> <p>A wooden cross marking the grave of seaman Joseph Daniels who drowned in January 1948 and a second unmarked wooden cross possibly that of petty officer J.G. Bold (Avery & Cooper, 1986)</p> <p>Sealers remains observed by Marsh in 1948 (Avery & Cooper, 1986), no longer visible.</p>
2. Ships Cove	<p>Remains of sealer village: hut timbers, ships parts, coal, ceramics etc. (See full list in Chapter 4)</p> <p>Trypot remains on the beach</p> <p>Wreck of the SS <i>Solglimt</i> (Underwater) (Boshoff, 2011)</p>
3. Mixed Pickle Cove	<p>Coiled cable, timber remains</p> <p>Historically: Hut remains and a number of sealer artefacts including a rifle, glass bottles with mixed pickles etc. recorded by Le Grange in 1952 and Rand in 1956 (Avery & Cooper, 1986)</p>
4. Triegaardt Bay	Remains of a small boat (Avery & Cooper, 1986; Boshoff et. Al. 1997)
5. Cape Davis	<p>Cast iron kettle, cast iron stove fragments, ceramic fragments, remains of ships timbers</p> <p>Historically: hut remains, rotating grindstones, broken bottles observed (Rand, 1956 in Avery and Cooper 1986)</p>
6. King Penguin Bay	Hut remains, no longer visible today, recorded by Challenger crew in 1872 (Molseley 1879 in Avery & Cooper, 1986)
7. Sea Elephant Bay	Stone walls, wrought iron hoop and metal pins (Avery & Cooper, 1986; Boshoff 1997, 2011)
8. Sealer's Beach	Remains of a hut observed in 1910 (Marsh 1948 and Rand, 1956 in Avery & Cooper, 1986)
9. Trypot Beach	Trypot, a few pieces of timber and part of a metal plate (Boshoff 2011).
10. Archway Bay	Timber remains, ships timber and driftwood (Avery and

	Cooper, 1986)
11. Bullard Beach	Trypot, hut foundation remains
12. Sealer's Cave	Remains of stone wall, penguin skins and other artefacts (Avery and Cooper, 1986)
13. Kildalkey Bay	Remains of possibly a pebble floor and hearth (Boshoff et al. 1997) Possible sealers camp (Rand 1956 in Avery & Cooper, 1986)
14. Goodhope Bay	Remains of stone walls and a trypot (Avery & Cooper, 1986; Boshoff et al. 1997)
15. Rook's Bay	Cast iron kettle, cast iron lid, iron disk and timber remains (Boshoff et al. 1997) Sealers camp remains observed by Rand in 1956 and Le Grange in 1952 (Avery & Cooper, 1986).
16. Swartkop Point	Remains of two inter-leading shelters, hut foundations, cast iron kettle, rotating grindstone, single bladed adze, revolver, rifle, plate and timber remains. Also remains of an inscription carved into the wall possibly the name of the captain of the <i>Seabird</i> (Avery & Cooper, 1986; Boshoff et al. 1997)
17. Water tunnel	Remains of a stone wall enclosing an overhang (Boshoff et al. 1997) Part of a seal harpoon and timber remains
18. Kaalkoppie	Remains of an unknown shelter reported to lie close to this locality (Avery & Cooper, 1986)

2.3 The Whaling and Sealing Industry

2.3.1 General History and South Africa

The following discussion is in no way an all-encompassing portrayal of the above industry but gives a brief overview of the vastness and growth of the industry. The hunting of seals for their blubber and skin started as early as the sixteenth century. Historical records mention the Dutch clubbing seals “as early as 1591 on Robben Island” (Raven-Hart, 1967 in David & van Sittert, 2008: 107). Southern Africa had a number of islands not far from its coast that had served and still do, as refuge for large seal populations such as the South African Cape Fur Seal (*sp. Arctocephalus pusillus pusillus*). These seals were

hunted at first mainly for their fur skins and then later for their blubber which would be rendered into oil. When settlers first arrived at the Cape in 1652, seal skins were already being exported to Holland; export records show that in 1610 as many as 45 000 seals were harvested. Records also indicate that the Cape Garrison, under the control of the Dutch East India Company, hunted seals for blubber in order to use in their oil lamps and to replenish their meat supplies. Islands such as Dassen Island and the islands in Saldanha Bay were a prime spot for this resource. These islands were harvested so regularly that by 1750 the numbers of seals on the islands started to decline (David & van Sittert, 2008).

Whales, on the other hand, were hunted for their meat, blubber and bone and the scavenging/hunting of this Cetacean species had already been taking place for hundreds of years. The history of whaling has been well documented although mostly from the perspective of the natural sciences with some research indicating that it had been taking place since antiquity (Reeves & Smith, 2003). Indigenous groups such as the Alaskan Eskimos or the Indonesian Lamalera had been practising whale hunting for centuries as a form of subsistence before commercial whale-hunting began to take place in the sixteenth century by the Europeans (Aldrich, 1888; Reeves & Smith, 2003). In southern Africa some of the earliest records referring to the consumption of whales by indigenous groups such as the Hottentots date back to AD 1654. Excerpts from Jan Van Riebeeck's personal journal talk about indigenous groups scavenging whales that had washed up on shore and of them rendering the blubber into oil. A traveller in the employment of the Dutch East India

Company, Johan Nieuhof, also mentioned how the indigenous people ate the raw whale meat of stranded whale carcasses (Raven-Hart, 1971 in Kandel and Conard, 2003). This is further supported by archaeological studies in which remnants of whale bones have been found at prehistoric sites along the coast in southern Africa (Smith and Kinahan, 1984). Even though the Dutch started hunting whales soon after setting up a colony in the Cape of Good Hope in 1652; it had only been a sporadic enterprise (David and van Sittert, 2008). It is only in the latter part of the eighteenth century that shore-based whaling began in southern African waters and foreign vessels such as the American whalers from Nantucket started to arrive (Booth, 1964).

Reeves and Smith (2003) describe fourteen different eras in which whaling conceivably took place around the world distinguished by the main methodologies used to capture the various species. These eras did not happen in any particular succession but overlapped as the industry developed in different regions across the globe. Examples of these eras start with the less well-known Pre-historic, the Poison era, Arctic Aboriginal era and Tropical Aboriginal era that took place as early as antiquity up until the twenty first century. Later eras included the Net, Basque Shore, American Shore and American Pelagic, which only started to take place in the seventeenth century and continued towards the twenty first century as well (Reeves & Smith, 2003). Some of the earliest commercial whaling voyages started in the seventeenth century by the British and the Dutch into the Arctic Sea. It was only towards the end of the century that American and European whalers later joined in the industry. The nineteenth century saw a major change as technology progressed

even further allowing for the hunting of faster whale species such as the fin-whales, orquals and humpbacks (Hindle, 1952). The introduction of the Norwegian, Svend Fyon's technique and his invention of the explosive harpoon played a large role in ushering in the change from sail to steam driven vessels and the introduction of floating factories that led to worldwide industrial expansion (Webb, n.d; Aldrich 1888; Hjort, 1937; Hindle, 1952; May 1986). Reeves and Smith (2003) describe these as the Transitional Steam, Norwegian Shore, Factory Ship and Mechanized Small- Type eras starting from the late nineteenth century and lasting up until the twenty first century.

With the decline in northern whale populations, whalers found their way south looking for fresh hunting grounds in southern Africa, the sub-Antarctic region and Antarctica (Hjort, 1937; Booth, 1964). Not only did they find the southern waters abundant in Southern Right Whales and Sperm Whales, they found another type of catch this time in the form of seals that would provide them with goods to trade (Booth, 1964; Reeves & Smith, 2003). By 1785 American Whalers were overwintering at the Cape and hunting in both Saldanha and St. Helena Bay in South Africa during the June to October season (Booth, 1964; David and van Sittert, 2008). The whaling industry in South Africa evolved much like the rest of the world. Whales coming into the sheltered bays to breed made them an easy catch and most whalers living in South Africa did not have to venture far out to sea (May, 1986). Methods for hunting and procuring whale products changed as technologies progressed, although the most prominent technique used was that of shore-based whaling. The industry also had a profound effect on the development of local towns and industry in southern

Africa. For example, the establishment of whaling factories in areas such as Kalk Bay and Fish Hoek in False Bay led to the development of local coastal communities and infrastructure. The availability of jobs attracted different types of workers to the area including artisans such as carpenters and blacksmiths (Chapman, 1977; May, 1986).

In other parts of the world, the establishment of the shore-based factories also led to “intense economic exchange that significantly impacted indigenous populations and stimulated the development of western-style communities [such as] the Maoris of New Zealand, Aborigines of Australia, Indians of North and South America and Canada” (May, 1986:1).

The growth of the sealing and whaling industry therefore played a significant role during the seventeenth through to the early twentieth century (Webb, n.d.). The industries provided products such as oil for fuel, meat for consumption by humans and as animal fodder, baleen for use in the garment industry (in the case of whales) and fur skins for hats and shoes (Webb, n.d; Reeves & Smith, 2003; Lawrence & Davies, 2011). These items were exported to places such as England, Holland, India as well as China (David & van Sittert, 2008; Lawrence & Davies, 2011).

By 1893, seals living off the coast of South and South West Africa, finally received protection under the Fish Protection Act of 1893. This act was later replaced by the Sea Birds and Seals Protection Act of 1973. Sealing however

was continued by both the South African government and private companies well into the twentieth century; although under a more regulated system (Best, 1973).

2.3.2 Seal Hunting Methodology

Most sealing operations were based from ships, with smaller gangs going ashore in small boats. The boat crews would scout the islands for their prey; whilst some crews were left for long periods at a time on shore to hunt before returning to the ship with their catch, others would go in for short opportunistic hunts (Lawrence & Davies, 2011).

Both whaling and sealing were mainly seasonal industries, Best (1973) describes the South African season as running from about mid-June to mid-October whilst Booth (1964) talks about the main season running from September to December. Despite varying accounts, it would seem that the main period for hunting the seals occurred during the spring and summer months during the breeding season (Lawrence & Davies, 2011). A period in which the seals, especially the younger ones were most vulnerable.

Hunting seals and the removal of skin and blubber to be rendered into oil was a messy business. Crew members did not necessarily need to have a large amount of skill to do the required tasks and were often paid on a lay system, which meant they only got paid when a profit was made (Best, 1973; Lawrence

& Davies, 2011). Records often make mention of crew members deserting their ships, the ships then having to replenish their personnel along with supplies at local ports or shore stations (Booth, 1964). In the case of South Africa, Natal and the Cape Colony had the largest industries and ships would often call in at Durban or Cape Town. The *SS Solglimt*, for example, stopped in at Durban before moving on towards the Prince Edward Islands (Captain Harboe Ree, Letter to “Morgenbladet”, 4 December 1908; Empire Notes, 1911).

Equipment used to hunt seals seems to have been minimal and rudimentary. Sealers would herd seals by surrounding them or by blocking their seaward escape and most often use a club to hit them over the head (Best, 1973; Graham, 1989). Best (1973: 51) describes a club used in the South African sealing industry as follows;

The clubs used are generally green milkwood or ironwood staff from 1.75 to 2.0 m long and with an average diameter of about 5 cm.

In later years, in an attempt to make this whole process more humane, sealers working with the South African government were “instructed to open the chest with a knife and sever all the main blood vessels round the heart after clubbing”, (Best, 1973: 51).

Once the seals were killed, the skin would be removed and dried out with salt or other substances, and the blubber would be rendered into oil. In order to do this the blubber would be boiled in a trypot or large iron kettle, the resulting oil

cooled, and then stored in barrels, ready to be exported to the various international markets (Lawrence & Davies, 2011).

2.3.3 The Industry and Marion Island

There is often very little evidence left behind on these kinds of sites, as evidenced by archaeological work at sealer sites on other sub-Antarctic islands such as Heard and Macquarie Islands (Lawrence & Davies, 2011). The sites of the survivor camp of the *SS Solglimt* on Marion Island presented the same ephemeral material. The survivor camp was only occupied for a short period, offering a temporary solution to an unexpected turn of events and was never meant to be a permanent situation (White, 2013). Fortunately, with the help of historical documents as well as the more modern photographs and accounts collected by the Antarctic Legacy of South Africa Project, we were able to piece together enough evidence to better understand the event that took place there.

Accounts of sealing activities are known to have taken place as early as 1799 right through to 1930 on the Prince Edward Islands. The islands were visited by a number of foreign vessels coming from Britain, France, Norway, South Africa and Canada (Avery & Cooper, 1986). This is supported by many accounts of individuals visiting the islands over the years such as Marsh (1948), Le Grange (1952) and Rand (1956) as well as Marion Island team members in later years, who described and recorded hut remains left behind by sealers. Some of these were still filled with artefacts such as the hut at Mixed Pickle Cove or the

remains in the shelters at Swartkop Point. On the other hand, some sites didn't have as many artefacts left behind or visible features such as the remains of the stone walls under the overhangs at Goodhope Bay or Water Tunnel (see list of sites in the table 1 above) (Avery & Cooper, 1986; Boshoff et al. 1997). Sites¹ are found both in concentrated scatters or as single objects scattered across Marion Island. It is quite difficult to define a site in the context of the island as sites may take the form of a collection of cultural artefacts confined to a small area, clusters scattered over a large area such as in Ships Cove, or one or two objects in a specific area such as the trypot on Trypot Beach.

In a report published on the historical sites of the Prince Edward Islands, Avery and Cooper (1986) describe two types of sites as being most prominent. These were sites that had trypots and then a second type which had "cast iron kettles and rotating grindstones" (Avery & Cooper, 1986: 24). The report also noted that the location of the sites correlated with the presence of seal colonies. It is, however, not certain whether the location of the trypots or the iron kettles and grindstones were associated with the location of particular species. It was also suggested that the different types of objects may be associated with varying durations of the sealer visits or different chronological periods of activity at the island (Avery & Cooper, 1986).

¹ A site referring to either a collection of cultural artefacts or a single artefact found in a specific location.

This is not too different from the studies that took place on Macquarie or Heard Islands. Two types of sites that were found there were sites that held artefacts associated with domestic activities and sites that held artefacts associated with industrial activities. At the industrial sites, both try pots and iron kettles were found, the try pot seemed to have been associated with an earlier period of sealing and the large iron kettles in a later period (Lawrence & Davies, 2011).

In the context of Marion Island, from an archaeological perspective sites can be differentiated in much the same way. Artefacts can be associated with either domestic or industrial activities. For example, Ships Cove is an area that contains artefacts related to both types of activities. Sites in the valley possess artefacts reminiscent of domestic activities such as the ceramics, glass and hut remains. Whilst the beach possesses objects that are clearly associated with industrial activities such as the try pots and barrel stave. This however will be discussed in further detail in a later section when the archaeological remains of the *SS Solglimt* survivor camp are discussed (see chapter 4).

2.4 History of Ships Cove and its Sites

2.4.1 The Wrecks of Ships Cove

Ships Cove is one of the few areas on Marion Island that has a protected bay and a sandy beach. The bay is situated on the North-East section of Marion Island about 1km, or a forty-five minute to an hour's walk, north of the research base at Transvaal Cove. It is one of the few bays around the island that form a natural harbour and would have been an accessible landing spot for ships

coming to the islands in order to drop gangs to hunt seals. The cove has two distinct areas. The first is the beach, which is made up of black volcanic sediment, backed by eroding grass covered embankments which lie below steep high-rising cliffs. Due to both water run-off and wind erosion, the cliffs have undergone a large amount of erosion episodes over the years; this is made evident by the large boulders lying on the beach. The beach is also home to one of the King Penguin colonies on the island, Fur Seals and a few Elephant Seals whilst the cliffs are used by nesting birds such as the Wandering Albatross.

The second distinct area of the Cove is the valley which lies north of the beach. The valley is made up of boulders, gullies and rolling hills which incline toward the tops of the cliffs. It is here where the easiest access can be gained into the cove. The hills are covered mostly in a fern-type plant called *Blechnum* and the waterlogged gullies are filled with seal wallows. Along the north facing cliffs you will find rock overhangs which are used by the seals for shelter.

Ships Cove, received its current name because of its history of shipwrecks. Two ships are known to have foundered in the bay. These were the *Uxor* which was lost in 1841 and the more well-known *SS Solglimt* which wrecked in 1908 (Avery & Cooper, 1986; Graham, 1989).

The history of the *Uxor* and Marion Island seems to be quite a vague one. The *Uxor* was an American vessel which had visited the Prince Edward Islands on a number of occasions. However, on her last voyage she was said to have

disappeared “on the Crozettes on October 28 1841” (Starbuck, 1878 in Graham, 1989: 54). Seven members of the crew along with their Captain Stevens were later rescued and returned to Cape Town in August 1842 by a vessel named the *Regent Packet* belonging to a Mr. John Jeary (Graham, 1989). According to Graham (1989) the “Crozetts”, was often a term used to describe both the Prince Edward Island Group and the Crozet Island Group, the latter lying 1063 kilometres east of Marion Island. However, Graham seems certain that the vessel wrecked on Marion Island as records of the log-keeper on the *Emeline* describe the beached wreck during their visit. The accounts given by Captain Stevens also seem to indicate that the *Uxor* wrecked at the Prince Edward Islands (Webfoot, 1871 in Graham, 1989). Today however there is little archaeological evidence to support this. The second ship known to have wrecked in the Cove is that of the *SS Solglimt*.

2.4.2 The Story of the *SS Solglimt*

The *SS Solglimt* was originally registered as the British *SS Harbinger*, an iron steamship built by the Sunderland Ship Building Limited for the Harbinger Steam Ship Company of Sunderland (Sunderland Board of Trade Court Report, 30 November 1892). The vessel was launched in 1881 in Sunderland, grossing 1810 tons, 271 feet in length, 36.1 feet in breadth and 20.6 feet in depth (Lloyds Register of Shipping, 1883; Marsh 1948). The ship was rigged as a schooner and outfitted with “two [cylinder] compound-surface-condensing” engines with a combined output of 170 horse power, manufactured by the British North Eastern Marine Engineering Company Ltd. (Sunderland Board of Trade Court Report, 30 November 1892: 1; <http://www.wrecksites.edu/wreck.aspx?116348#>,

retrieved 19 October 2014). The vessel was then sold to Christoffer Hannevig of Horten, Norway in 1906 and renamed the *SS MacFarlane*. She was sold a third and last time in 1907 to the Storm, Bull and Company (also known as the Fangstselskapet Haabet A/S) of Kristiania, today known as Oslo, Norway (<http://www.skipshistorie.net/Horten/086ChrHannevig/Tekster/HRT0861906030000Macfarlane.htm> retrieved 28 June 2016). Storm, Bull and Co. renamed her as the *SS Solglimt* and refitted her as a floating factory to hunt and process seals for the market (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908; Marsh, 1948).

As mentioned previously, the *SS Solglimt* had already undertaken a voyage under her new name to the Crozet Islands at the end of 1907 to resupply a provisions depot on one of the islands and to hunt Elephant and Fur seals along the way. After returning to Norway in March 1908, she underwent some repairs before her next voyage (Boshoff et al. 2015).

Later that same year, the *Solglimt* with a crew of 75 men and under the command of Captain Ree, left Tønsberg, Norway on the 15 August 1908 on her second voyage to the Crozet Islands and Prince Edward Islands to once again hunt Elephant and Fur seals. On her way south, the vessel stopped over at South Shields to coal and headed to Port Natal in South Africa where she was to supplement her coal bunkers before heading to the Prince Edward Islands and then to the Crozet Islands (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908; Marsh, 1948).

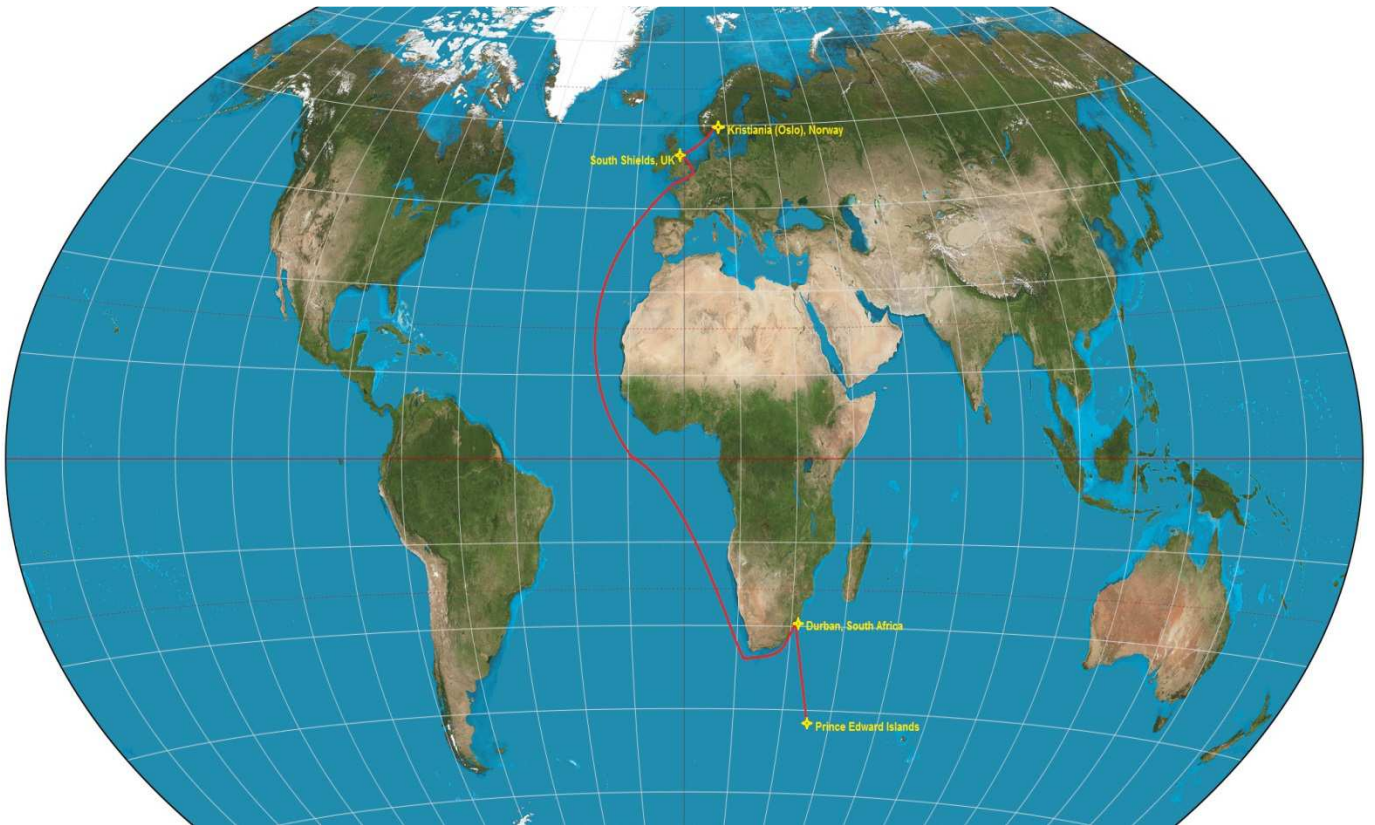
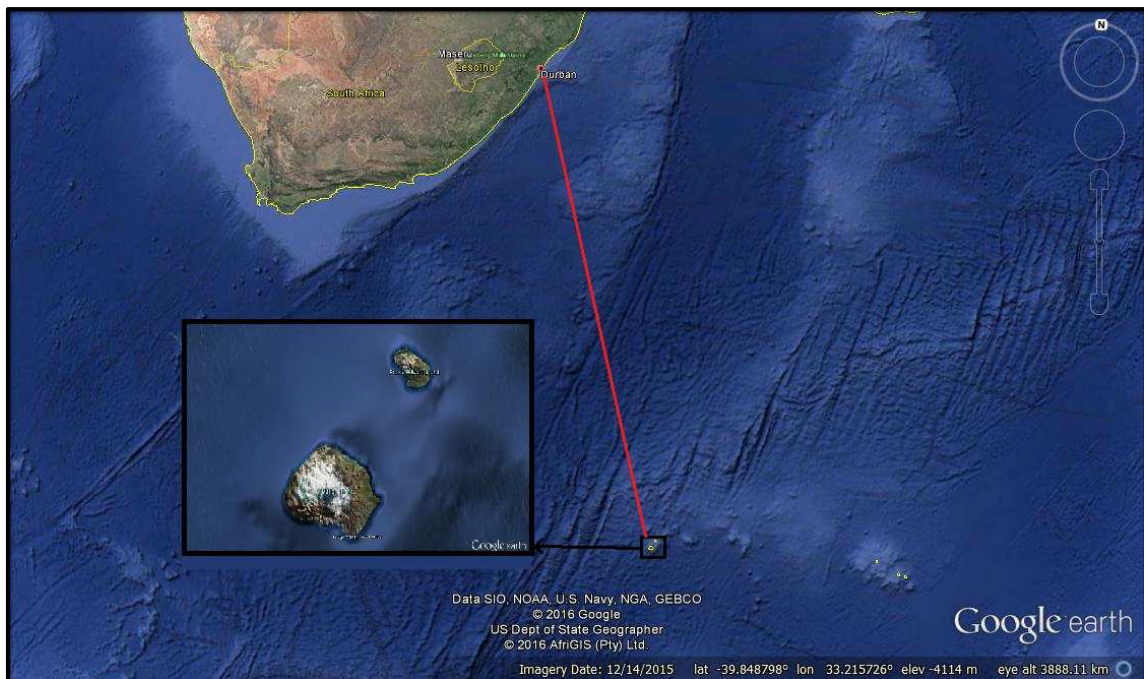


Figure 5 & 6 (Below): Possible route of the SS *Solglimt* from Kristiania (Oslo) Norway to South Shields, UK to Durban, South Africa and lastly to the Prince Edward Islands. (Please note that the above image is only a representation of the route for the purpose of this dissertation).



The ship reached Marion Island on the 15 October 1908 and successfully landed a hunting crew which collected six boats full of Elephant Seals. The next day they headed for Ships Cove, which they had named “Solglimt Bay”. A small boat was launched to sound² the waters of the bay and to check whether it was accessible and had any seals. It was during this time that the ship struck a rock and the hull was damaged so badly that it started to fill with water. The captain, in a bid to save the crew, drove the ship at full speed into the bay and ran it aground. With the help of one of the smaller rowing boats, the mooring wire was tied from the forecastle³ of the ship to boulders on the beach and supplies sent across to shore in baskets. Over the next few days, the crew continued to salvage supplies, timber, parts of the ship and the smaller boats. Fortunately, no loss of life occurred and the crew not knowing when help would come proceeded to furnish themselves huts out of the timber and supplies from the wreck and set up camp on the beach and in the valley north of the beach (Captain Harboe Ree, Letter to “Morgenbladet”, 4 December 1908; Marsh 1948).

After a month of being stranded on the island, they were rescued by two Canadian sealing vessels; the *Agnes G. Donahue* under the command of Captain Reuben Balcom and the *Beatrice L Corkum* under the command of Captain Gilberth. Both vessels were quite small compared to the Solglimt and only had crew of about 15 individuals on them. In order to take on the survivors, they had left members of their own crew behind to hunt fur seals on Marion

² A technique used to measure the depth of the water.

³ Forecastle: “refers to a short, raised foredeck, the forward part of the upper deck, between the foremast and the stem, or the quarters below the foredeck (Steffy, 1994: 271 in the UNESCO Training Manual Appendix B: Basic Shipbuilding Terminology 2012: 6)

Island whilst they took the *Solglimt* crew back to Durban where they arrived respectively on the Monday 30th November and Friday 4th December 1908 (Asbjørn Bjørnstad, 4 December 1908).

2.4.3 The Ships Cove Survivor Camp/s

During their month long isolation on Marion Island, the crew of the *Solglimt* was fortunate to have enough provisions to sustain them for at least three months. Before the remains of the ship had broken up into two sections and finally sunk even further below the water line during a big storm on the 27 October, a large amount of supplies were removed. In his account to the *Morgenbladet*, Captain Ree describes how he and the crew were able to build huts from the timber and canvas salvaged from the wreck. The first of these to be built was the hut where they could store provisions and a place where the cooking would be done; they had even managed to take a large cast iron stove from the ships kitchens that could be used to bake bread (Letter to “*Morgenbladet*”, 4 December 1908). He goes on to describe how they had:

...gathered in groups and built their own houses. Little by little several small houses were erected and on the tenth day after the shipwreck we all had roofs over our heads. The mates, the engineers, the doctor, the secretary and myself built our own house. We found a cave in the mountain that was nice and spacious. Over this we built a roof of planks and canvas. Later we got floor of planks and walls of planks and peat. We fetched the fireplace from the ships cabin and with plenty of coal from the ship, we soon had a pleasant heat. Our

little house was named "Solbakken", mostly because the sun rarely shone on it. The other houses had different names like "Olastua", "Kampen", "Grünerløkka", "Blaasenberg", "Smedmyra" etc (Captain Harboe Ree Letter to "Morgenbladet", 4 December 1908).

It would seem from his accounts that despite being marooned on an island in the middle of nowhere, they did not want for too much. They had food they had saved from the ship, penguins, bird eggs and seals to supplement it, they had fresh water, shelter, heat to keep warm and even alcohol. When they were rescued they left most of their supplies behind, taking mostly clothing and some food with them (Asbjørn Bjørnstad, 16 November 1908).

This was fortunate for the *Seabird* survivors who were wrecked a few years later in 1912 on Prince Edward Island. After a short time on Prince Edward Island they made their way over to Marion Island, where they discovered the remains and later re-used the *Solglimt* site for their own camp (Marsh, 1948). It is uncertain whether the survivors knew of the existence of the camp but as will be discussed later it was common practice for sealers to leave supply depots behind in deserted places in case of events such as these. Passing and/or visiting ships would also often record what they had come across and seen in daily logs and report on this once they returned.

Except for the *Solglimt* and *Seabird* survivors, it is not known exactly how many other groups made their temporary home in Ships Cove. Marsh (1948) mentions that the crew of the *Wakefield* arrived at the island in March 1910 in their search for the missing *Waratah* and that members of the crew described

the remains of the camp. The descriptions state that the *Waratah* crew found many of the huts still intact as well as the trypots and three boats on the beach but no survivors. The only people they record meeting were “penguin parties” who were making use of huts a hundred miles west of the cove (Marsh, 1948).

As to what happened to the crew of the *Uxor* in 1841, it is uncertain. No accounts of the event have been found to verify that they had indeed wrecked at Marion Island. In his excavation of the shelter at Ships Cove, Graham describes finding the remains of an earlier structure below (Graham 1989). Could these have been remains left behind by the *Uxor* survivors? Only further research will be able to shed light on this.

Chapter 3

Research Methodology

3.1 Aims

For the purpose of this dissertation, data was collected over two respective field seasons on Marion Island. These seasons occurred over a period of 4 weeks during the annual relief voyages to the island in 2013 and 2014. The bulk of the data to be discussed in the following chapter came from the field season which took place in 2013. Due to the time constraints inherent in the need to complete fieldwork during the four week relief voyages, the Archaeologies of Antarctica project's research could not focus entirely on the sites in Ships Cove but also had to cover the other cultural sites found in various locations around the island. This meant that only a certain amount of time could be spent working on specific areas. In 2013 the aim was therefore to focus primarily on the sites found in the valley and on the beach in Ships Cove, upon which this dissertation has been based.

Ships Cove is a large, archaeologically complex area made up of clusters of cultural remains scattered throughout the valley and on the beach south of the Valley (see fig. 7). The valley contains the bulk of the survivor camp remains with a large number lying exposed on the surface, a variety of remains can be seen during a visual survey of the area and can be found concentrated under rock overhangs today used by the seals for shelter and in the lower lying gullies found all over the valley. In contrast, the remains on the beach are few and scattered and embedded within the grassy embankments formed after years of

erosion of the cliffs directly behind it. There are, however, a few trypot remains exposed on the beach.



Figure 7: Panoramic view of the valley with the bay in the background. Red arrows indicate the different loci of the artefact clusters (Photograph taken by the Archaeologies of Antarctica Project)

Of the four main research questions for this dissertation, the aims of this particular component of the research were 1) to further investigate the archaeological remains of the Ships Cove valley and beach through geographical and archaeological survey; in order to 2) locate and record the remains of the *Solglimt* survivors' camp and that of the *Seabird* or other sealing parties later making use of the sites; leading 3) to the identification of particular activities that occurred at that location and that would allow us to possibly understand the thinking behind the way the camp was organized.

As with most projects of this nature, in order to answer the above research questions it was important to look at both the historical record and the archaeological record. It was hoped that an ethnographic approach could also be used and that project members would be able to interview descendants of the survivors in order to hear their stories. Unfortunately, the closest that the project could get to this was in the historical documentation and accounts that

were found through the hard work of the Antarctic Legacy of South Africa (ALSA) project.

Before commencing field work, the AAP had to ensure that it had in place the required permissions before going to the island. This included an archaeological collections permit from Heritage Western Cape as the PEIs are protected under the National Heritage Resources Act 25 of 1999 and fall under the jurisdiction of the Western Cape PHRA as well as the South African Heritage Resources Agency. The islands are simultaneously managed and protected under the Environmental Conservation Act (no. 73 of 1989), the National Environment Management Act (no. 107 of 1998), (NEMA), the National Environment Management: Protected Areas Act (No. 57 of 2003) (NEMPAA) and the National Environmental Management: Biodiversity Act (No. 10 of 2004) (NEMBA).

Both PEIs have also been designated as Ramsar Wetlands of International Importance in 2007 under the Convention on Wetlands of International Importance (Ramsar Convention 1971). Due to this, there are various locations around the island that falls into protected zones (Prince Edward Island Management Plan V 0.2, 2010) (refer to fig. 8)



Figure 8: Map of Marion Island Management Zones (Prince Edward Island Management Plan, 2010)

Ships Cove is one of the areas that lies in a protected zone because of the penguin colony, the albatross nesting areas and the seal colony. The project therefore had to apply for a NEMA permit through the South African National Antarctic Programme (SANAP), in order to access, survey and excavate in this area.

Two main research strategies were employed during the project and also helped to form the way the project would approach the collection of the data. This firstly included looking at the historical documentation such as official and unofficial records kept of the event, sealers log books, and photographic

documentation. Secondly it used archaeological survey and geophysical survey techniques to collect the data to answer the three research questions mentioned above. Similar techniques were used by Clark and De Biran (2010) in their study of the *Antelope's* survivor camp and can be used for comparative analysis. Comparisons will also be drawn to methods used by archaeologists working on other shipwreck survivor camps such as the *Batavia* (1629) and *Zeewyck* (1727) (Gibbs, 2003) as well as the *Sydney Cove* (1797) survivor camp (Nash, 2002). All the data collected will also be compared to data collected during previous field seasons such as 2011 and to the excavations completed by Tom Graham in 1989.

3.2 Applied Methods

The fieldwork was completed on the Marion relief voyage 007 which departed on 10 April and returned on 17 May 2013. The AAP team consisted of Mr Jaco Boshoff (Iziko Museums of South Africa), Dr. Sven Ouzman (at the time Iziko Museums of South Africa) and Ms Tara Van Niekerk (at the time from the South African Heritage Resources Agency and author of this dissertation). The team also consisted of a fourth member, Mr John Cooper of the Antarctic Legacy of South Africa Project, who accompanied the team to sites around the island and assisted in the collection of historical documentation. Excluding travel to Marion Island and other activities, the team had approximately 25 weather-dependent days to work on the sites in Ships Cove. In addition we travelled to other sites during this time in order to carry out site inspections and to place corrosion markers.

Conducting field work on Marion Island is not an easy task, all personnel are based at the science base in Transvaal Cove and scientists have to walk to their research sites each day. The AAP team was lucky in that all the non-sensitive field equipment was loaded into a shipping container that was dropped in Ships Cove by one of the helicopters (see fig. 9). The more sensitive items such as the magnetometer, gradiometer, GPS units and cameras had to be carried from base. The trip from base to Ships Cove is roughly one kilometre over rough terrain and it usually took up to an hour to get to the site and back to base. Scientists in the field had to make sure that they were back at the base or were ready to radio in from field huts by 5pm each day as no one was allowed to be in the field at night. This meant that each day the team had to work within time constraints set by safety officers on the island and work was also heavily dependent on the weather of the island. Heavy rainfall, snowfall and wind gusts up to 60km/h were not uncommon during the fieldwork period and more than once the team came upon Ships Cove with evidence of snow or frost still on the ground.



Figure 9: Team members removing gear from the equipment container and preparing for survey (Photograph taken by the Archaeologies of Antarctica Project).

3.2.1 Visual and Geophysical Survey

One of the main survey methods employed during the 2013 field season was the use of a GSM 19 magnetometer and a gradiometer that had been borrowed from the South African National Space Agency (SANSA) used to carry out a geophysical survey in Ships Cove. Both instruments were used to gather magnetic data of a predefined area in order to pinpoint locations for later excavation. The team also completed field walking surveys, a GPS survey and looked to previous studies and historical references for guidance.

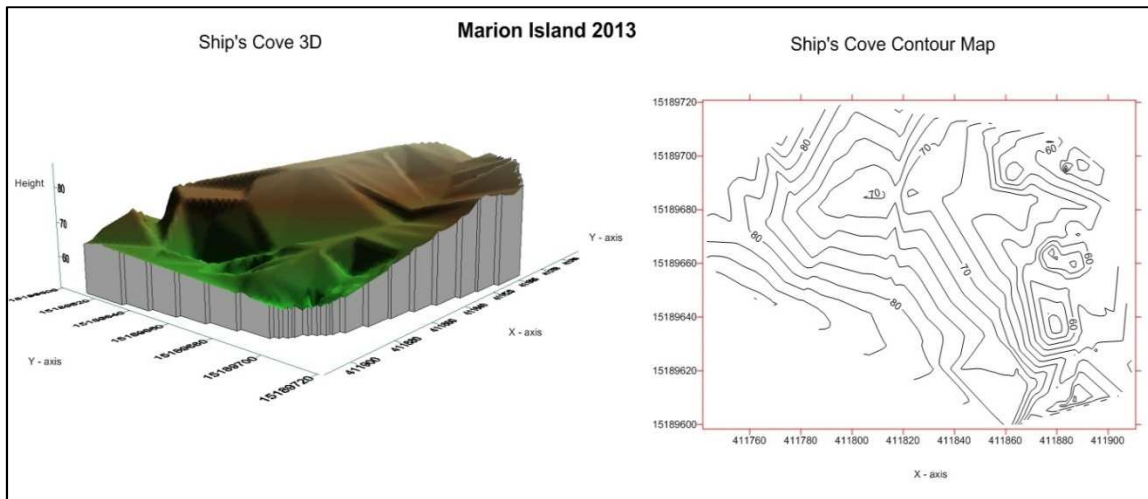


Figure 10: 3D and Contour map illustrating the results of the GPS Survey of Ships Cove valley (Courtesy of Jaco Boshoff, IZIKO Museums).

After an initial visual survey of the valley, it was determined that the team would focus on three main spots in the valley that would be investigated further through geophysical survey and sub-surface investigation. This decision was guided by the results of previous work such as Tom Graham's excavations in 1989, previous surveys on the island and under-explored areas in the valley. It is quite difficult defining the extent of an archaeological/ historical site on Marion Island as there are so many different areas around the island that have artefact clusters of varying quantities dispersed throughout. An archaeological site is usually defined as consisting of one or more artefacts or features as evidence for past human activity or behaviour but when does one area become separated from another and become a site in its own right? Is it distinguished by proximity/ distance or the contextual relationship between objects/clusters of objects? (Gallant, 1986; Jones, 1993) Fortunately, in the context of Marion Island most of the clusters are found in areas that have already been defined and given names over the years and lie in specific zones as depicted on the map in figure 2.

For the purposes of this dissertation and the AAP, sites are generally named after the known areas where there is a large cluster of artefacts or features. In this case, Ships Cove is known as Site 1, which includes the beach and the valley and is further divided into loci which were assigned alpha-numeric designations and given names based on the character of the assemblage found there. The first spot was under a large rock outcrop known as the Abseilers rock (see fig. 11). This initially came to our attention during the 2011 field season, as the area was scattered with timber under rocks and artefacts buried beneath the grass. The team also came across a wrought iron hook and a cache of unfired cartridges. At the time it was assumed, that possibly this could have been the “Captains area” because of the large cache and the assumption that the Captain had the only gun. Unfortunately, as will be discussed in the next section this assumption was proven incorrect through the historical accounts which suggest that a number of shotguns were present at the camp. Also, ammunition was found in other loci as well. This loci was therefore designated Site 1a (aka Captains area) and will be referred to as such. The second spot, known as Site 1b (aka Stumble post) was discovered after Mr Boshoff stumbled over what looked like a hut post in the area. Upon further inspection, there seemed to be more posts in the vicinity of the first but it was hard to tell because of the vegetation covering the area (see fig. 12). The third spot, known as Site 1d (aka the Hoop site) was chosen for excavation because of the wrought iron “hoop” that stuck out of the ground about half way up the valley. This area was recorded during the 2011 survey but was not investigated further at that time (see fig. 13).



Figure 11: Site 1a (Photograph taken by the Archaeologies of Antarctica Project)



Figure 12: Site 1b (Photograph taken by the Archaeologies of Antarctica Project)



Figure 13: Site 1d (Photograph taken by the Archaeologies of Antarctica Project)

Other sites in the area that were visually inspected include Site 1c (aka Cookhouse area) which lies exposed in one of the gullies in the valley. The area has a large concentration of timber, broken iron plates and fragments that could have been part of a stove, clay bricks, as well as some ceramic and glass fragments (see figure 14). In addition, the team came across trypot remnants at the beach as well as timber buried in the grass embankments below the cliffs and a single barrel stave (the latter being the only item collected from this area). There were also two shelters south of the valley before the path to the beach that had a number of timber remains and what seemed to be ships' parts (see fig. 15 & 16).



Figure 14: Site 1c (Photograph taken by the Archaeologies of Antarctica Project)



Photographed by A Crawford 1948



Photographed by T Graham 1989



Photographed by S Ouzman 2013

Figure 15: Images of top shelter and Tom Grahams excavation (1989).



Figure 16: Lower shelter (Photograph taken by the Archaeologies of Antarctica Project)

Once the team had established the areas it would focus on, the geophysical survey was then conducted working around the known artefact points. In order to accomplish this, the first surveys were conducted with an Overhauser GEM System Gradiometer GSM 19GW, borrowed from SANSA. A magnetometer is an instrument used to measure anomalies or variances in the earth's natural magnetic field. To obtain further accuracy, whilst the magnetometer uses only a single sensor, a gradiometer uses an additional sensor which is added in series to the primary sensor. By using two sensors temporal variations in the magnetic field can therefore be removed from the data using computer software. The variances or anomalies were then used to ascertain whether there might be artefacts buried beneath the surface or in some cases underwater (Smekalova, Voss and Smekalov, 2005).

In order to carry out the survey in a controlled environment, the team set up a grid that spanned over each area to be surveyed. These were Sites 1a, 1b, 1c and 1d which were surveyed in lanes approximately 2 metres apart. The number of lines that were walked varied according to the size of each area, where 1a had 6 lines, 1b had ten lines, 1c had 5 lines and 1d had about 5 as well. Once, the data was collected it was then processed through Geosoft software.

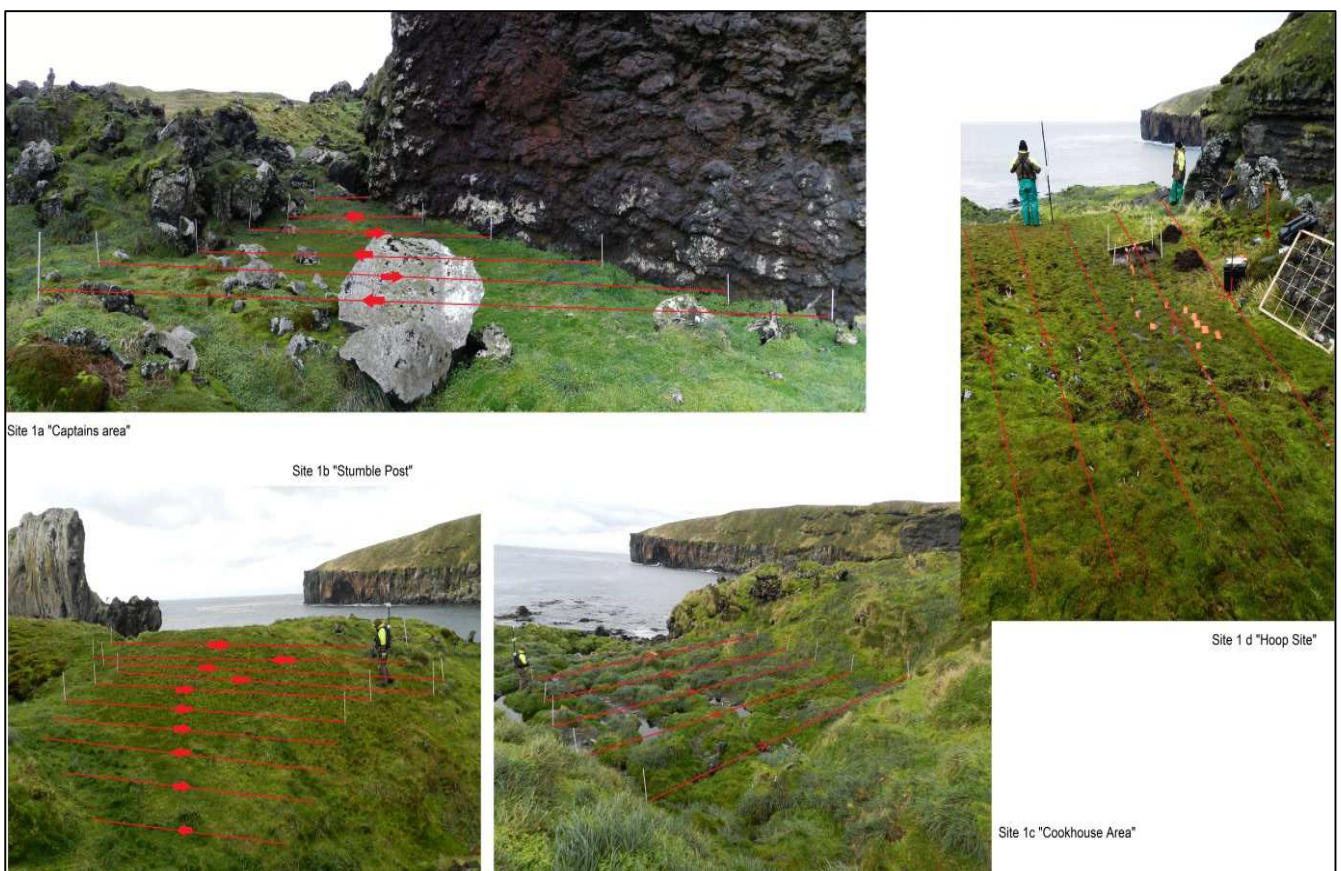


Figure 17: Images depicting the layout of the survey grids at Sites 1a, b, c & d.

The software allowed the team to look at the magnetic data on a visual platform, which could then be used to determine whether any anomalies were present in the area. If the data illustrated any significant anomaly, a GPS coordinate would

be extracted for further investigation at the site (see figures 18-20). Below is a table of the anomalies from each site with their associated GPS points.

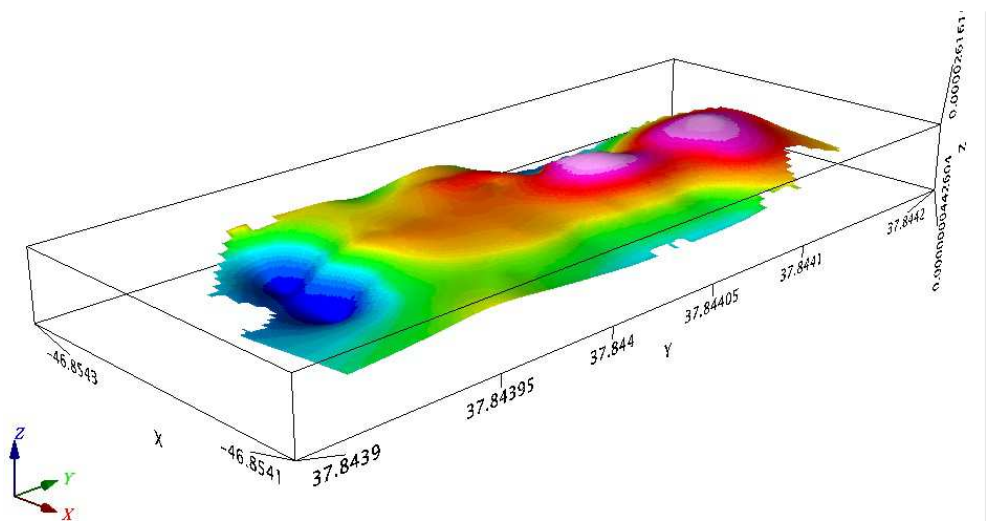


Figure 18: 3D Map of Site 1a.

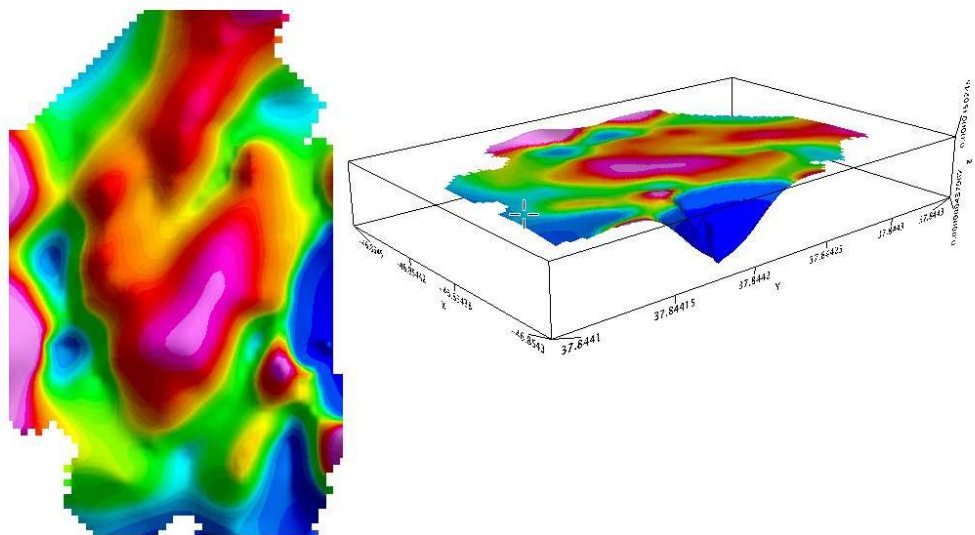


Figure 19: 3D Map of Site 1b.

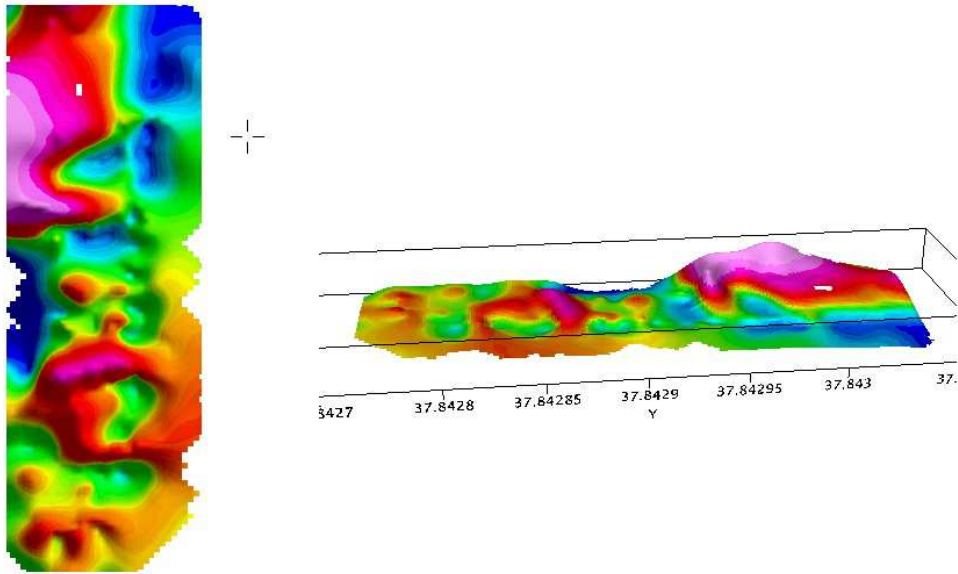


Figure 20: 3D Map of Site 1d.

Table 2: List of anomalies extracted from magnetic data.

Captain 1a	GPS ref	S	E
Anomaly 1	CPA1	46.85421	37.84405
Anomaly 2	CPA2	46.85401	37.84402
Anomaly 3	CPA3	46.8542	37.84395
Stumble post 1b			
Anomaly 1	NAA1	46.85438	37.8442
Anomaly 2 **	NAA2	46.85434	37.84418
Anomaly 3	NAA3	46.85432	37.84416
Anomaly 4 (Rock?)	NAA4	46.85444	37.84418
Anomaly 5 (Rock?)	NAA5	46.85445	37.84423
Cookhouse 1c			
Anomaly 1	CKA1	46.8547	37.84406
Anomaly 2	CKA2	46.85468	37.84408
Anomaly 3	CKA3	46.85467	37.84398
Anomaly 4	CKA4	46.85461	37.84394
Anomaly 5	CKA5	46.85475	37.84407
Anomaly 6	CKA6	46.85473	37.84402
Hoop 1d			
Anomaly 1	Hoop1	46.85465	37.84286
Anomaly 2	Hoop2	46.85462	37.84293
Anomaly 3	Hoop3	46.85459	37.84395

These anomalies were later used to determine which areas were to be further investigated through test pits. Unfortunately, the geophysical survey had its

limitations as the island itself is magnetic due to the volcano and the data is not always accurate. Even though many of the anomalies proved to be near known artefact points, it was the visual survey of the valley that provided the most useful data in determining areas for further sub-surface investigations.

3.2.2 Archaeological Investigations below the Surface

As mentioned before, even though most of the valley and beach were surveyed, the team only had a limited amount of time available to determine deposition of specific loci and to see if any stratigraphy was present in Ships Cove. Only three areas, that had not been worked on before were demarcated for further sub-surface investigation. These were: Site 1a, the Captain's area that held the cartridges, hook and timber remains; Site 1b, the "new" area found in 2013 that had evidence of hut posts; and Site 1d, the loci with the iron hoop protruding from the ground. Due to time constraints and the exposed nature of Site 1c further excavation was not necessary. At each site investigations had to take place in a controlled environment, as the test pit or excavation had to have minimal impact on the surrounding vegetation or wildlife. At each site the top layer of grass had to be carefully removed first, so that the site could be covered up immediately once the investigation was completed and the grass could be rehabilitated in line with the permit requirements.

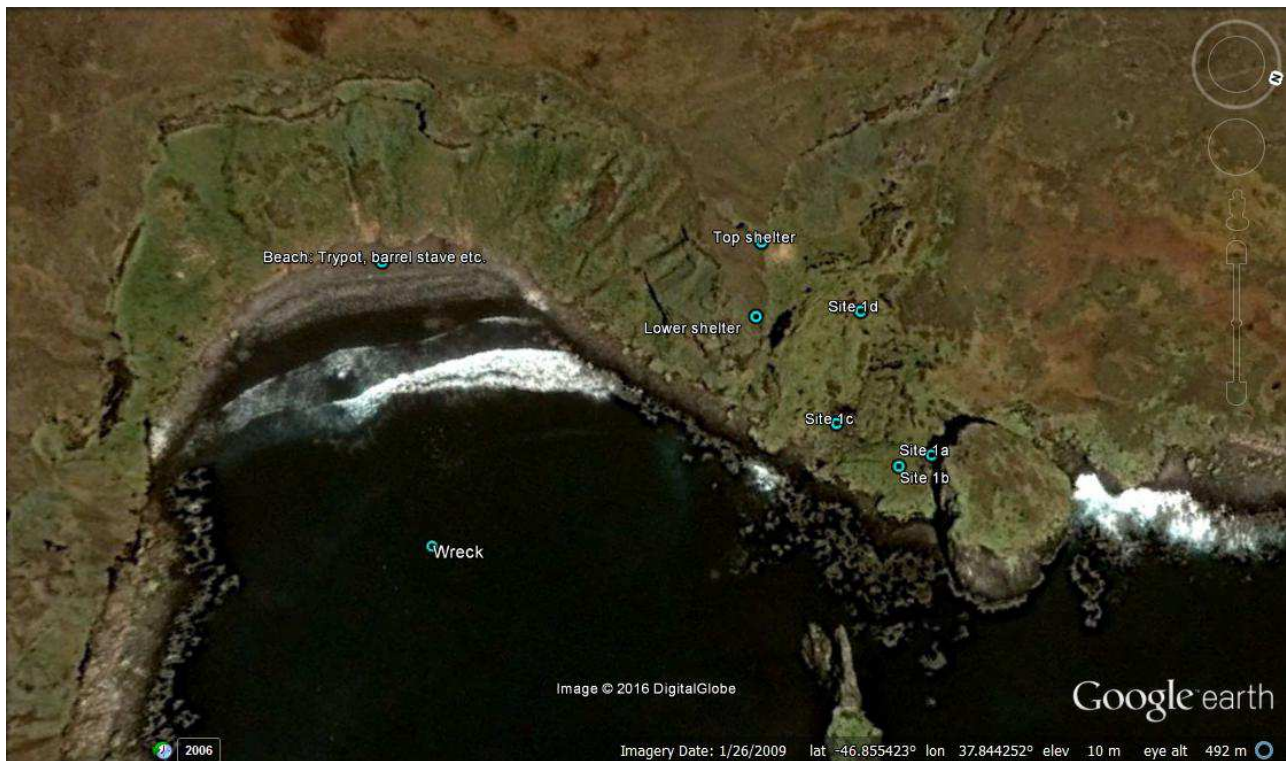


Figure 21: Image illustrating top view of sites in relation to each other.

Site 1a- the Captain's area

A full excavation could not be completed at each site, firstly due to time and secondly due to the lack of deposit in certain areas. Since we already knew of the timber, cartridges and hook, a test pit was only opened under Abseilers rock. A metre square was measured out using a square metre drawing frame in a north-south orientation over the area with the hook and timber. Due to the shallow nature of the deposit, it was not necessary to remove the top layer of grass first. The soil was quite gravelly and had a large number of earthworms in it, there were also many rock chips from the rock face above and the deposit only went down about 10cm before hitting rock. On closer inspection what was thought to be timber turned out to be a metal strap more or less a metre in length with a fastening hole in the one end. Except for the strap and a piece of badly deteriorated timber the square did not yield any other finds. All the

artefacts that were removed from the site were first recorded *in situ* through photographs, a sectional drawing and the location recorded with the GPS. The metal strap, hook and timber were then removed and brought to IZIKO museums for further conservation.

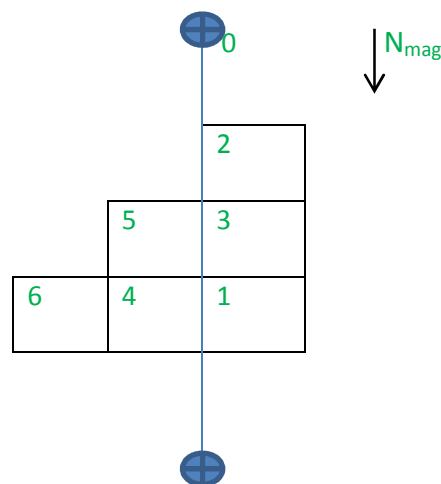


Figure 22: Top view of the site 1a test pit excavation (Photograph taken by the Archaeologies of Antarctica Project)

Site 1b- the Stumble post

This was the only site that was fully excavated during the investigations. A base line of approximately ten metres was laid on a North to South axis with 0 on the south end. The areas to be excavated were then marked off using the inside of the square metre drawing frame. Once again the idea was to work from the

known point of the posts and open up the area from there. The area was excavated by opening up one square metre at a time and carefully removing the top layer of grass to be replaced at the end. Each square was then excavated to a depth of about 15 cm before the next square was opened. The numbering of the squares was based on the visible way the artefacts/timber were distributed and wherever there seemed to be a concentration, the next logical step was to open up a new square next to that and to follow the distribution, i.e. they were numbered sequentially in order of excavation rather than alphanumerically according to the grid reference.



Depiction of Site 1b excavation layout with the baseline in blue.

The first square included the first post with some of the other objects located during further probing of the site and fell between the 6 and 7m mark on the left side of the baseline. Square 1 yielded good results with quite a bit of wood uncovered, possibly floor timbers, the post went down fairly deep and seemed to have natural nodes and branch features on it. Square 1 also yielded two pieces of glass which looked fairly modern and fragments of lead that could

possibly be part of a cartridge and charcoal. The second square was placed between the 4 and 5m marks on the baseline and covered the area with the second post. Square 2 yielded fewer results; the post seemed to be larger and squarer and even had wooden pegs in it. Square 3 was placed between the 5 and 6m marks on the baseline and yielded more timber and a few glass fragments. Square 4 was placed next to square 1 on the right side of the baseline. This was so that the team could continue following the planking found in square 1. A fifth square was then opened above square 4 and a 6th square next to square 4. Finds included more timber that was possibly part of the hut structure, bits of glass with a blue tint and a lead bullet head in square 5. Square 6 yielded bottle green glass fragments (n=2) a red brick with no markings on it and a smaller piece that had broken off next to it, 2 pieces of clear glass that made up a complete base with decoration on it, a flattened lead bullet head with a bit of copper on it and bits of metal and corrosion product, fragments of what looked like another metal object possibly iron and a small chip of yellow brick.

A few of the squares showed some areas where there were dark black spots mixed in with the soil and this could possibly be from degraded charcoal/coal over the years. In all the squares the sediment was composed of thick wet mud full of roots that made digging quite difficult. All of the wood recovered was quite waterlogged and therefore really soft and easily damaged with a trowel. However, the wet environment provided a good preservation environment for the finds except in the case of the metal, which was corroded and some of the timbers (some of them rotting). It was also found that the roots from the grass

grew with the grain of the timbers and, when removed, the top layer of some of the timbers peeled off with it. It is also possible that the metal corroded because of the different metals reacting against one another.

During the excavation process each of these features was marked with pin flags and were drawn onto the section before being removed and put into labelled sampling bags. Once the squares were all cleaned up, scaled photographs of each square was then taken along with top view photographs to complete a photomosaic (see fig 23). GPS points were also taken on the 0 datum point on the baseline.

**Marion Island
Ships cove
Site 1b_ Stumble Post**
Date: April 2013



Figure 23: Photomosaic of the site 1b excavation (Photographs taken by Archaeologies of Antarctica Project)

Site 1d- the Hoop site

Before opening up a test pit in this area, the team first completed another visual inspection of the area and tried to locate the anomalies via the GPS data extracted from the geophysical survey. The Hoop 1 anomaly was situated near a timber embedded in the embankment above the depression that lies further down the slope from the iron hoop. The Hoop 2 and Hoop 3 anomalies were located more towards the centre of the area that was surveyed.

The area was then probed following the length of the timber and the positive results seemed to correspond more or less with the gradiometer data which also showed a large anomaly in the lower area. A square was opened over the visible piece of timber that extended a distance below the soil. After measuring out a metre square with the drawing frame and marking the corners with PVC poles, the top layer was then removed. This layer was not very thick, just a layer of moss over the timber not more than 5 cm thick in most areas. Immediately more timbers could be seen and upon further excavation a concentrated area of coal was uncovered in the centre of the square and lying beneath the largest piece of timber, the same one found protruding from the ground. The square didn't quite lie north to south like the previous excavations but more NW to SE. After excavating to a depth of about 13 cm, it was decided nothing further would be achieved by going down any further. The coal found under the timber suggested that the timber fell down on top of it. Some of the timbers were quite thick ranging from 5 to 6 cm widths whilst others were quite thin. Again the thicker timbers suggested wall or flooring planking but this could not be determined by only the small area uncovered. The coal was collected and put

into sampling bags and a GPS point taken on the north corner of the square. Photographs were taken and a section drawing completed of the square.



Figure 24: Site 1d test pit excavation (Photograph taken by the Archaeologies of Antarctica Project)

3.2.3 Underwater Survey 2014

One of the main objectives of the AAP was to investigate the remains of the *Solglimt* shipwreck in Ships Cove. Due to the restrictions on the island and access to sites, no previous archaeological work had been successfully conducted on the underwater site. An attempt was made by Dr. Werz during his trip with Tom Graham in August 1989 but unfortunately due to equipment failure it did not happen (Graham, 1989). After obtaining permission from SANAP, the

AAP was allowed to investigate the site during its 2011 and 2014 field seasons. During the 2011 survey, the team nearly suffered the same fate as Dr. Werz but managed to obtain air tanks from base in order to conduct a few dives. Due to the time constraints imposed on the field work period during the 2014 season, the team focused mainly on surveying the wreck and spent less time inspecting the land sites in Ships Cove for any changes. Even though this dissertation does not focus on the shipwreck itself, it is important to put into context the relationship between the sites on land and the underwater site, particularly as the crew is known to have salvaged as much off the wreck as was possible.

During the 2014 field season the team consisted of three members, these were Mr Jaco Boshoff, Ms Tara Van Niekerk and Ms Heather Wares. Once again a container had to be loaded with the necessary dive gear, survey and safety equipment and dropped down in Ships Cove. The container was placed towards the top end of valley near the northern access point of the valley and provided the team with a base from which all diving operations occurred. Having a container in the valley was a convenience but its higher location meant that it was still a distance of approximately 100 metres uphill from the safest access point into the water. From this point it was a 200 metre swim out to the shipwreck itself, with divers having to contend with seals, thick kelp and large swells. The visibility in the water also became much worse the closer the divers got to the site. This was due to the surge around the wreck lifting up the dark sediment, penguin feathers and other debris floating around the wreck.

The wreck lies at a depth of a maximum of six metres with most of it covered in sediment. The most prominent features are the engine block, the twin main boilers, a donkey boiler, a Cochran boiler, part of the bow structure with anchor chain, anchor, winch and sections of the portside bulwarks. During the 2011 survey of the wreck the latter three features were not visible. This meant that the sediment had shifted quite a bit and exposed more of the wreck by the time it was surveyed in 2014 again.

In order to map the site, the team established a baseline from the engine block to the bow. The line ran through the middle extent of the site in a West to East orientation at a total length of 41 metres on a 330 degree bearing towards the bow, with 0 being placed at the bow. The baseline was marked in five metre increments so that the main features could be measured in using trilateration and offset measurements. A rough mud map was created of the site including detailed sketches and scaled photographs to record the main features. GPS points were also taken on the engine block and bow as the main reference points for the shipwreck site. This data was later used to draw up a scaled site plan of the exposed features (see site map fig. 25). Other artefact features found on the site included brass fittings on the engine block and red clay bricks stacked inside the boilers

WRECK OF THE SS SOLGLIMT 2014

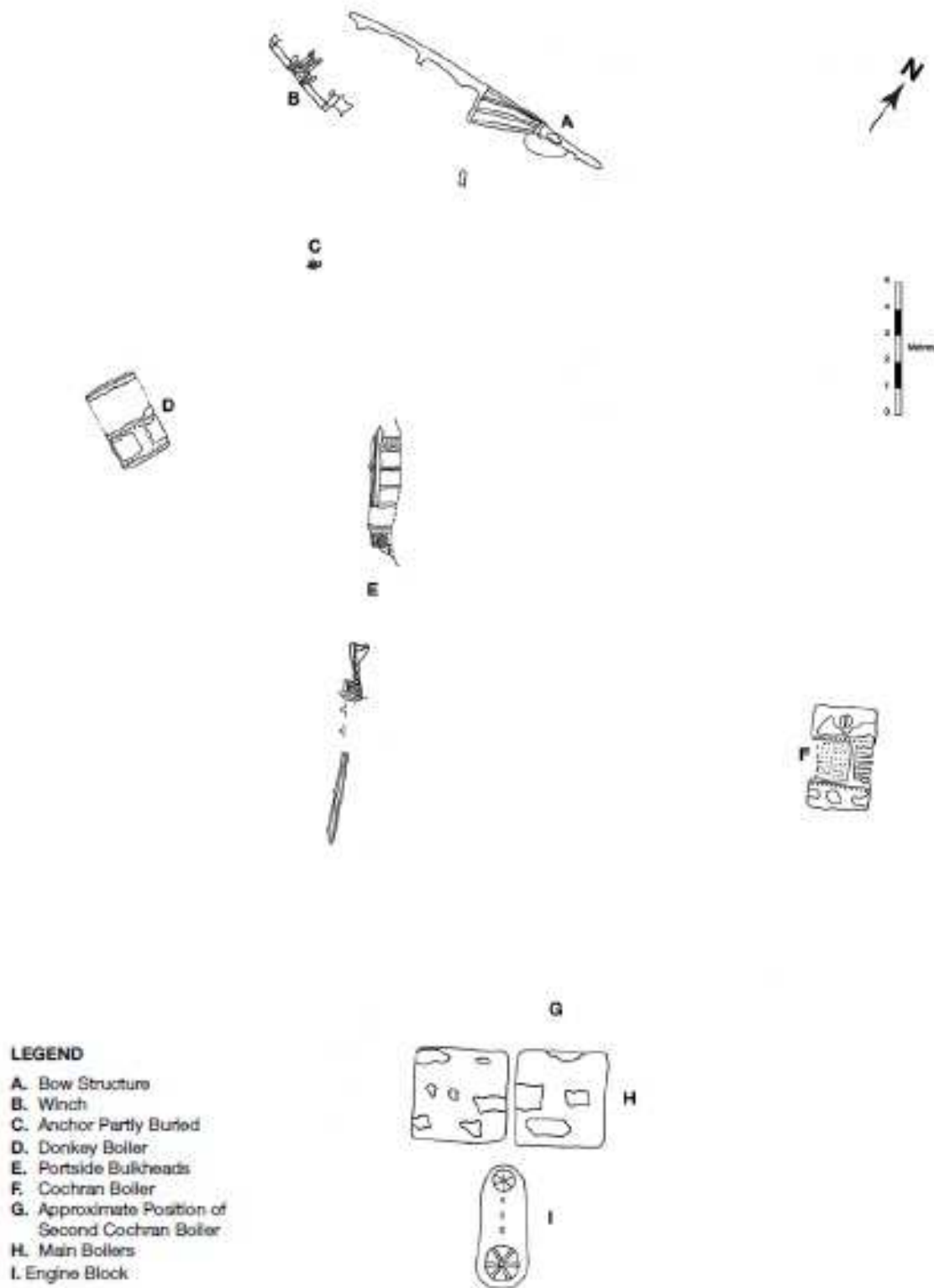


Figure 25: SS *Solglimt* Site Map (Courtesy of Jaco Boshoff, IZIKO Museums)

3.3 Data Analysis

3.3.1 Describing the artefacts

The sub-surface investigations yielded only a small number of artefacts and are only a small representation of the artefacts observed in the valley and on the beach. Abandoned by the crew of the *Solglimt* at the prospect of returning home, the camp they left behind became something of only memory but to individuals coming later to the islands the site became a useful resource. In some sense one man's trash became another man's treasure, which meant it slowly got used and taken apart over the years leaving behind only remnants of what it was before. However, as will be seen in the discussion, the sample does paint a good picture of the types, quantities and distribution of artefacts observed during the excavations and field walking surveys. See appendix A for images.

At Site 1a, the Captains area, the team found a cache of ten cartridges, two 0.22 rifle rounds, a wrought iron hook, a metal strap and a small amount of timber mostly in the form of planks. The test pit only yielded the metal strap and a single plank.

Site 1 b, the Stumblepost site, produced the largest sample of artefacts collected due to more extensive excavation efforts in this area. The site showed visible remnants of hut structure in the form of planking, a wall plank possibly still *in situ* and round posts. The site also produced artefacts in the form of glass, four bullets, brick and coal fragments. Only one complete glass bottle

was collected, however this was found embedded in the embankment further down the slope from the excavation.

Even though site 1c, the Cookhouse area, was not excavated it held the largest visible concentration of artefacts in the valley. Most of the assemblage consisted of the remains of a hut structure in the form of collapsed planking. Other artefacts were the metal plate remnants of a stove, brick fragments, stoneware fragments and glass fragments. Except for the collection of a few pieces of brick, stoneware and glass; most of the assemblage was left *in situ*.

Site 1d, the Hoop site, yielded little during the test pit excavation. The only artefacts observed in this area were seven pieces of planking and the largest quantity of coal remnants.

Other sites around the valley, not excavated by the AAP, included the rock shelters on the southern end and the artefacts surveyed on the beach. There are two rock overhang shelters that contain a number of artefacts (see figures 15 and 16). The top-most shelter was investigated during Tom Graham's excavation in 1989 where he uncovered the remains of a hut. Mr Graham recorded floor planking, remains of the wall planking and possibly planking of an earlier structure. During the excavation he also recorded six cartridges the same as those collected at site 1a, an earthenware jar he dated to the late 19th/early 20th century and coal fragments. Based on the limited amount of information available at the site he could not conclusively say that it was built by the *Solglimt* crew but thought it a good possibility (Graham, 1989). During the

2013 and 2014 surveys, the remains of some of the timber were still visible in both rock overhangs which were used as shelter by the seals living in the valley. The top-most shelter had only a few timbers visible with most of Graham's excavation covered by vegetation. However, one could still see one of the hut posts standing upright and a few partially exposed floor planks that were recorded in the 1989 excavations' drawings and photographs. Also visible was a gudgeon⁴ possibly from a small boat.

The lower shelter contained some timber, a mast hoop, a large iron peg and a type of bilge pump. In the rocks one could still see the remains of nails that possibly held up a tarpaulin cover for the shelter. Beyond the lower shelter there are planks scattered all along a short path to the beach. On the actual beach, there are the remains of possibly two or three try pots. It was also here that the barrel stave was collected. Further up on the embankment the team observed the remains of a hut structure embedded in the grass but which has been covered up by erosion over the years.

Table 3: Lists the artefacts and features associated with each site and possible activity that took place at the different loci.

⁴ Gudgeon, "a circular fitting often made of metal, which is affixed to a surface [such as the rudder of a ship]. It allows for the pivoting of another fixture." (C. Pham in the UNESCO Training Manual Appendix B: Basic Shipbuilding Terminology 2012: 7)

Site	Artefacts/ Features	Activity
Site 1a	10 Cartridges, wrought iron hook, metal strap, timber, iron nail	Domestic, living quarters?
Site 1b	Timber (hut remains), glass fragments, 1 glass bottle, 4 bullets, coal remnants, clay brick remains, iron nail	Domestic, living quarters
Site 1c	Timber, remains of a cast iron stove, clay brick remains, coal, stoneware fragments	Domestic, central hub, storage
Site 1d	Wrought iron hoop, timber, coal,	Domestic
Shelter 1	Timber (hut remains) Graham (1989): earthenware jug, 6 cartridges, hut remains (possibly 2 levels of occupation), gudgeon	Domestic
Shelter 2	Timber (1 plank with scarph ⁵ join), bilge pump, iron nails in rock, mast hoop, iron peg	Domestic
Beach	Trypot (1 whole, 2 broken pieces), timber, barrel stave.	Industrial, processing area
Underwater	Remains of the wreck	Domestic and Industrial site

3.3.2 Discussion

The survey results show that the same type of artefacts appear in most of the assemblages with timber being the most prevalent material type. This is followed by the number of coal fragments and then metal pieces. Very few pieces of glass, brick and stoneware fragments were recovered.

The artefacts which were collected and recorded during the excavations can be seen displayed in the graphs below. In table 4 they are represented in terms of their body composition, table 5 represents the possible function of the artefact

⁵ Scarph join: a shipbuilding term used to describe a method of joining two planks together.

and table 6 represents the different types of artefact forms found in the assemblages.

Table 4: The different classes found within the artefact collection.

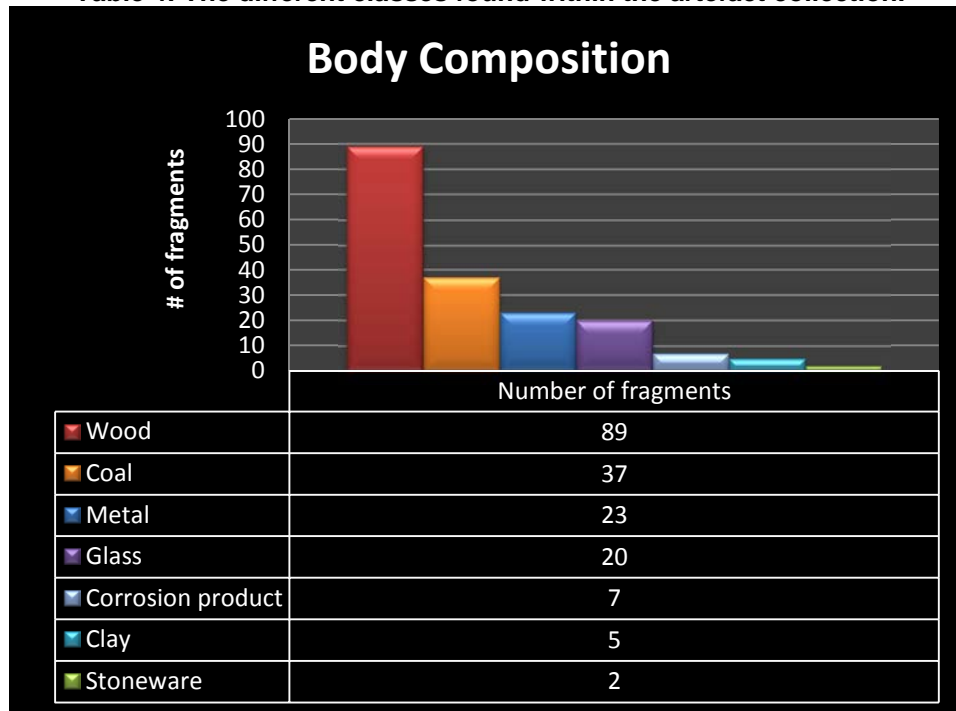


Table 5: The different function types found in the artefact collection.

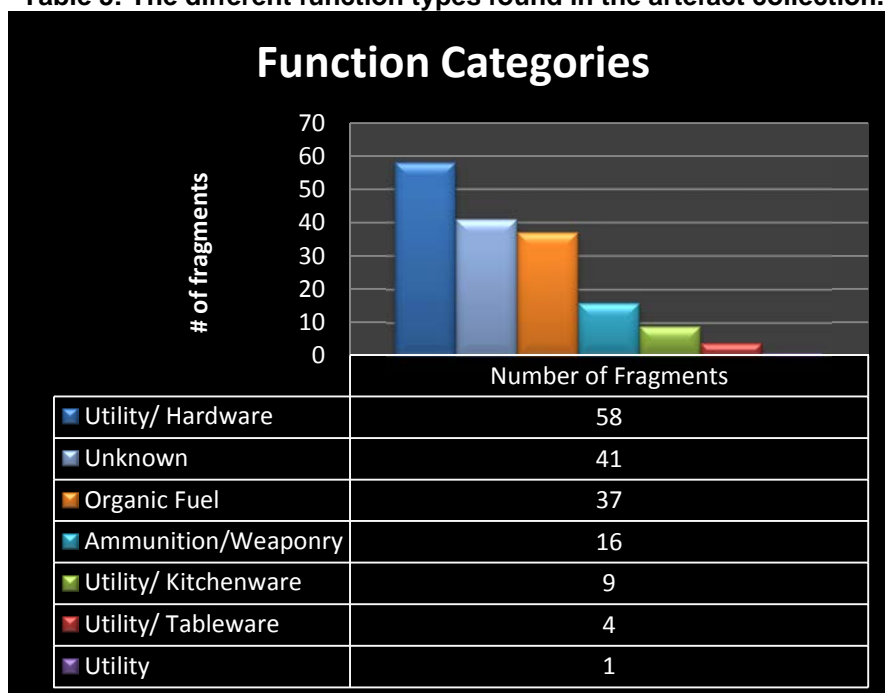
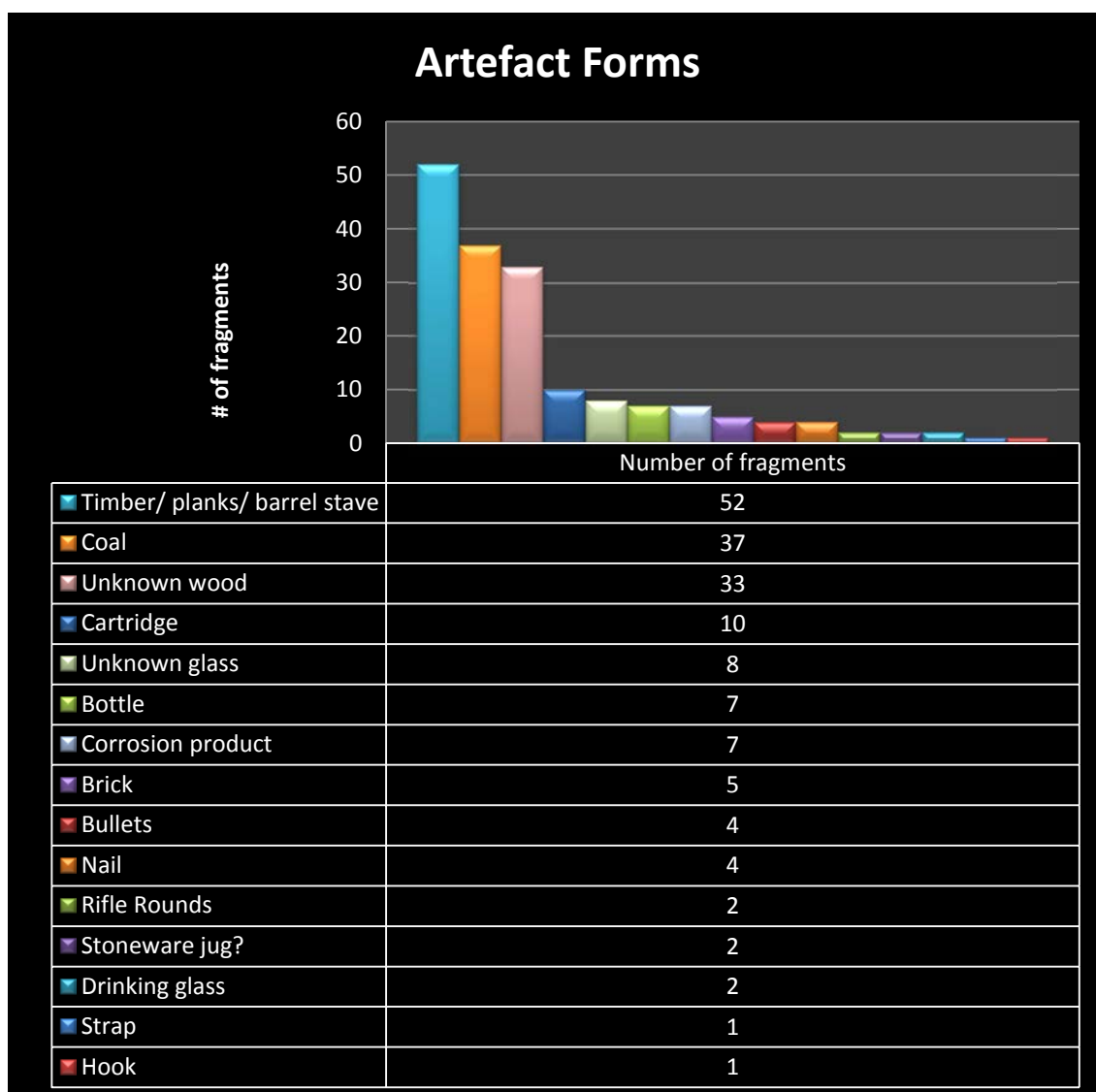


Table 6: Different forms found in the artefact collection.



In table 4, six different material types were recorded in the assemblage; these were wood, metal, coal, glass, clay and stoneware. Each column reflects the number of fragments/pieces represented within each material category. As will be seen in all three tables, wood in the form of hut planking or posts is the most prevalent. This is seen across the different sites in Ships Cove, confirming the presence of the large number of huts that were built in the area in the early 20th century. The locations of the wood also provide good indicators of the distribution of the huts in the valley and the beach.

The second largest quantity of artefacts, are the coal remnants found in the assemblage from sites 1b and 1d. The presence of the coal supports the historical accounts of the wrecking event of the *Solglimt* and is a good indicator of the presence of the crew in the valley. Newspaper articles describe the crew of the *Solglimt* salvaging as much as they could from the wreck before it sunk below the water (Newcastle Daily Chronicle, 9 January 1909). The *Solglimt* was recorded as having 900 tons of coal on-board at the time of her departure to the islands and a substantial amount may have been salvaged from the wreck (Marsh, 1948). It only stands to reason that there would be remnants of this in the valley and possibly in context with the remains of the hut structures as can be seen at site 1b and 1d. Coal was also observed during Tom Grahams' excavation of the top-most shelter. Unfortunately, the remains of site 1c, described as the cookhouse and storage area by Marsh (1948) which would seem to be one of the more obvious areas for such remains, did not have any visible coal remnants. This could be for a number of reasons including the exposed nature of this assemblage. A lot of the hut remains are said to have been re-appropriated by the *Seabird* crew and sealers coming later to the islands (Marsh, 1948).

The cartridges and bullet remains from sites 1a and 1b together formed the third largest quantity in the collection (see table 6). The cartridges found at site 1a, were one of two types of objects that bore a visible maker's mark with the words "H. Uterndoerffer, Nurnberg" on its base. H. Uterndoerffer was a well-known ammunitions supplier from Nurnberg, Germany during the 19th and early 20th centuries. The cartridges are made out of brass casings, a lead projectile head

and have a centre-fire rim base. They have an average length of 55.60 mm with three of the cartridges measuring in at 44mm and an average diameter of 11.92mm. The bullet calibre was measured using the internal diameter of the cartridge and seems to be an average of 11.92 mm (pers. comm. with Ethan Cottee, 2016). However, due to corrosion and incomplete cartridges it is difficult to obtain precise measurements. These measurements are close to the 12.17 x44 mmRF civilian ammunition rounds introduced into Norway during the late 19th century and used with a Remington rifle (https://en.wikipedia.org/w/index.php?title=12.17x42mm_RF&oldid=698084288, retrieved 21 April 2016). As mentioned previously, during Graham's excavation he also came across the same types of cartridges and through communication with a contact in Norway found that the cartridges were non-military ammunitions used during the period between 1880 and 1918 (Graham, 1989).

Of the four bullets, found during the excavation at site 1b, three are made out lead and have a copper nipple; with no other markings it is difficult to discern any further information. The fourth bullet is also made out of lead and closely resembles the lead projectile heads on the cartridges found at site 1a.

Amongst the cartridges, two 0.22 rounds were also found. These were used with a 0.22 long rifle (https://en.wikipedia.org/w/index.php?title=.22_Long_Rifle&oldid=719425790, retrieved 17 May 2016); the same type of rifle was also recorded amongst the remains of a hut at Mixed Pickle in 1954 by Sers. W.J Deyssel (pers. comm. Cooper, 2016). Although, these do not tell us much about

the sites of the *Solglimt* crew, it does suggest that the area was being used by different groups at different stages.

The bricks found at sites 1b and 1c were the second type of artefact that had markings on it. Two different kinds of bricks were found, one was made out of red clay and a second was made out of cream coloured clay. Of the five pieces found, two of the red clay bricks were branded with the mark of “Skromberga”. The same type of brick was found stacked inside the main port side boiler of the wreck with the same branding. The markings clearly place the site in the same provenience as the *Solglimt* and it is likely that they were salvaged from the ship. “Skromberga” was a coal mining factory located in Ekeby, Bjuv in the Skåne Province in Sweden, the industry was established in the eighteenth century and started supplying clay for refractory bricks in the late nineteenth century (<https://sv.wikipedia.org/wiki/Skrombergaverken>, retrieved 1 September 2016). This is not the first Norwegian site to be associated with the Skromberga brand. Remains of Skromberga branded bricks have also been found in other archaeological sites associated with the Norwegian Whaling Company such as the Norwegian Bay Whaling Station established in 1915 near the town of Learmonth in the North West of Australia (Garra, 1994).

The collection held very few diagnostic pieces amongst the glass fragments and only two stoneware fragments were found at site 1c. Of the glass fragments, only one whole bottle was collected. A vinegar bottle of the same type was recorded by Tom Graham at the sealers hut at Mixed Pickle in 1989. The hut was first recorded by biologist R.W. Rand in 1951/2 and inscriptions on the

walls indicated the hut was being used at least as early as 1909 (Graham, 1989). This could put the date of the site 1b bottle in the early 20th century. Except for a few pieces that could be identified as fragments of bottles (two of which were modern); there were two fragments that formed the base of what could possibly be a drinking glass with moulded decoration. The rest of the fragments held no diagnostic features.

In regards to the stoneware fragments, with only two pieces it is hard to say whether they form part of the same vessel since they were found in different locations at site 1c. The fragments however could possibly be part of a type of commercial stoneware storage jar which dates to use during the late 19th century and early 20th century. Tom Graham also recorded the presence of an earthenware jar late 19th/ early 20th century during his excavation of the top-most shelter (Graham, 1989).

Even though the collection has presented only a limited amount of information about the use of the cove by the *Solglimt* survivors, the dates still give a good indication of the period in which the area was used. The distribution of the sites also pointed towards various key locations where the huts were erected in the valley and beach, the latter of which will be discussed in further detail in the next chapter. Sadly, due to the looting of the sites and the use of Ships Cove by both people and animals over the years, not much is left at the sites except for timber and ship remains.

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Chapter 4

Solglimt Survivor Camp: Discussion

4.1 Introduction

The ephemeral nature of the survivor camp remains does present challenges in trying to understand what happened more than a century ago in Ships Cove but by combining the archaeological data with the historical record and an anthropological approach much can be learnt. After all why do we study the archaeology and the history of events, if not to assist us in trying to understand our own human nature and behaviour both in the past and present? In order to understand the Ships Cove sites, it is necessary to establish both the archaeological and historical data within a theoretical framework that will help us understand more about the distribution of the archaeological material. To do this, one of the aims of this chapter will be to look at the organization of the camp and establish key activity areas. Do the remains hold enough information that will help to define these areas and can the remains tell us anything about different periods of occupation?

A second aim of the discussion will be to explore the impact of social behaviour on site formation processes. So instead of focusing only on the archaeological remains and the historical record this chapter will attempt to follow a discussion that delves deeper into how cultural norms and practices might have influenced these events and the behaviour of the survivors (Gibbs 2003, 2006a).

To do so the discussion will follow Muckelroy's (1976) systematic approach to understanding the shipwreck event and employ various theoretical models to critically explore the survivor camp remains in Ships Cove. These are Martin Gibbs' models on salvage and disaster-response (Gibbs 2006a, 2006b) and Clark and De Biran's four key activities approach (Clark & de Biran, 2010).

Also, in order to fit the *Solglimt* survivor camp into a larger discourse around survivor camps, the discussion will also look at different but similar sites in South Africa and those found on islands in the sub-Antarctic and Australasian regions (Nash 2002, 2004; Gibbs 2003, 2006a; Clark & De Biran, 2010; Lawrence & Davies, 2011). Studies carried out in these areas will be used to create a comparison between what was happening at these other sites to that of the *Solglimt* survivor's camp. It might not fit neatly into a tidy theoretical box but there are many similarities as well as differences across these sites that can give us a better understanding of the archaeology of Marion Island.

4.2 The Survivor Camp: Categorizing Activities

At an initial glance, the archaeological remains can already be divided into two types of activities that seemed to have occurred in Ships Cove. As mentioned before, these are artefacts that can be associated with domestic activities and artefacts associated with industrial activities. Artefacts that were associated with domestic activities tended to represent an area that was used as a living/communal space. For example, the timber that indicates the remains of a hut post, floor planking or wall planking such as site 1b or the two shelters. Glass, metal and ceramic fragments that might indicate the remains of drinking

glasses, bottles, storage jars or the remains of a cast iron stove usually used in a kitchen-type area such as site 1b and 1c. These are all good examples of a domestic environment.

On the other hand you have artefacts that were associated with an industrial activity that represent an area that was used to carry out work-related tasks. Examples of these are the remains of the trypot on Ships Cove beach that would have been used to boil the seal blubber into oil or the remnants of the barrel that may have been used to store the oil afterwards. An argument could be made that the barrels could have been used to store food or gasoline as suggested in the accounts of Captain Ree (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908). Nonetheless, these are all still good indicators of an industrial type site.

Domestic and industrial are, however, only two categories that can be used to describe the context within which the possible activities took place and seem to be based on the relationship between the survivor camp and the ship and its primary line of work i.e. sealing (Gibbs, 2006b). There are still many indicators of other categories of activities taking place within the context of the *Solglimt* survivor camp. What about the activities associated with a post-event response? In their study of the survivors camp of the *Antelope* which wrecked in 1783 on one of the Palau Islands, Clark and De Biran (2010) outline four main activities taken from Keate's (1788) account of the event. It should be noted though that Clark and de Biran also note that, since Keate's account was only secondary, he might not have taken into account other activities that could have occurred. The four activities that he does mention though, were subsistence,

habitation, escape and defense; “defense” in the case of the *Antelope* was associated with the survivors’ unique circumstance with the locals inhabiting the islands at the time. Can these activities be seen in the case of the *Solglimt*?

The argument could be made that all four of these activities were taking place after the ship had wrecked. This is seen in possibly both the archaeological record and historical accounts of the event. Ships Cove seemed to have provided an ideal location for the setup of a camp. Not only did the Cove provide natural shelter with its rock shelters and overhangs, but it also provided access to other resources such as food in the form of seals and birds, including its proximity to fresh water lakes not far away and natural runoff that meant access to fresh water as well. Its location also meant easier access to their main source of supplies, the remains of the shipwreck. The first of the four activities seen occurring right from the start is that of subsistence. The crew immediately began salvaging supplies in the form of food, fuel, clothing, tarpaulin and wood from the wreck amongst other provisions (Newcastle Daily Chronicle, 9 January 1909).

A second activity was habitation; the first hut that the crew built was to house the provisions and a cookhouse which they furnished with a stove from the galley of the ship to ensure that they had bread. This secured their initial resources and a storage area they could later keep adding to. Soon afterwards they started using the wood and supplies such as the tarpaulin to create shelter for themselves, by building huts as well as using natural shelters like the rock overhangs in the valley and adding extra bits to it to make it more comfortable.

Captain Ree mentions that everyone had shelter within ten days of the wrecking event (Captain Harboe Ree, Letter to “Morgenbladet”, 4 December 1908).

A third activity seen taking place is the development of an escape strategy. The crew managed to save three small boats and started to furnish one of the boats with a sturdier keel and cover amongst other provisions so that the first mate, Henry Fævang, could lead a help-seeking expedition and make the long journey back to South Africa, the country closest in distance to the Prince Edward Islands (Captain Harboe Ree, Letter to “Morgenbladet”, 4 December 1908). A similar strategy had been employed previously by Captain Ree when the *Catherine*, a Norwegian sealer under his command, wrecked on the Crozet Islands in 1906 and he made his way over to Australia in a small boat to seek help (Marsh, 1948). Ships Cove therefore made a good place from which the newly upgraded boat could be launched as well as a good vantage point from which to spot and signal ships coming past the islands.

Another context within which to explore the notion of “escape” is in relation to the actual wrecking of the ship. This was escape to save lives in an immediate response to the current crisis. After hitting the unseen reef and the realization that the ship was going to sink as her holds filled with water, the Captain had to immediately come up with what Gibbs (2006a) would call a disaster-response strategy. This strategy allowed him and the crew to escape from a potentially catastrophic situation. One part of this escape strategy was for the crew to abandon the vessel in the lifeboats. Another part, and a forward thinking strategy, was to save both the crew and most of the supplies on board by

steering the ship at full steam towards the beach where it grounded on the sand. This allowed them enough time to remove as many of the supplies as they could in a non-life threatening situation before completely losing the ship (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908; Norwegian Consulate Marine Inquiry Report, 7 December 1908 included in the Shipping Control Journal nr. 841, 1909).

Unlike, the *Antelope* survivors, the *Solglimt* survivors did not need to worry about defense against native attacks unless you count defensive attacks from the seals they were possibly hunting as a supplementary food source. However, evidence of used and unused cartridges were still found in four different areas in Ships Cove. An argument can be made that the guns could have been used for a number of reasons such as for the killing of animals for food or fun. The firing of guns was also a way of signaling to ships far off in the distance such as was the case when they noticed the *Beatrice L. Corkum* near Prince Edward Island, which later came to their rescue (Asbjørn Bjørnstad, 14 November 1908; Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908). Alternatively it could also be argued that there was indeed a need for defense, not from an external antagonist but from an internal one. In accounts made later by the Captain and the ship secretary, Asbjørn Bjørnstad, the crew was not entirely well behaved and tensions existed on-board even before they had got to the Prince Edward Islands. In the excerpts below they describe some of the events that took place and their views on the crew:

As usual, when Norwegian sailors call at foreign ports, they make a scandal, and our crew did the best they could to keep this tradition alive. Drunkenness, fights and arrests at all times of the day was the name of the game. A police force of 60 men with loaded guns was needed to keep the crew on board. It's no use to have strict contracts with this kind of people, because if you were to punish them as they deserved, a mutiny on board would be the result. It's shame to see that the old and experienced are the worst and [that] they teach the young ones (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908).

Captain Ree, later goes on to describe a mutiny that did take place on-board the ship. Bjørnstad, on the other hand seemed quite relieved to be leaving the company of the rest of the crew after they had been rescued and were heading home.

Have, thank God, get rid of the crew, except for two escapees who will get the pleasure of spending a month in prison because of their insubordination (Asbjørn Bjørnstad, 14 November 1908).

Mention was also made of theft from their provisions, both after they had hauled the supplies ashore and again, later, from the central storage hut (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908). It can thus only be assumed that with the crew not behaving particularly well, with only a finite amount of provisions available to them and not knowing when they would be rescued, that a strategy to safeguard their supplies would have been put in place. Captain Ree himself stated that "[o]ne night, there was a burglary in the

provision house and a lot was stolen. This resulted in strict precautions being taken” (Captain Harboe Ree, Letter to “Morgenbladet”, 4 December 1908).

Although taking place in a different context, studies on survivor camps in South Africa have displayed these same activities. In the case of the earlier Portuguese galleon *São João* (1552) and the Dutch ship *Haerlem* (1647); camps were placed close to the area in which the ship had wrecked and locations were chosen based on the availability of resources such as freshwater and natural shelter. Goods were also salvaged from the wrecks and some of the items used to build huts. Escape and defence strategies could also be seen taking place, accounts mention the survivors setting up defence mechanisms against indigenous people as well as against internal perpetrators. For example, in the case of the Portuguese shipwreck survivor camps it was found that provisions were placed in a central area and under guard. However, unlike the crew of the *Solglimt*, those survivors had better access to resources such as trees for wood, a larger supply of natural food sources on the mainland compared to a deserted island, the ability to trade or barter with the local groups and a greater chance of assistance from other vessels. In the case of the *Haerlem*, the survivors received assistance in setting up their camp from other boats in Table Bay at the time (Mavridinov, 1995; van Tonder & Harris, 2006).

4.3 The Impact of Social Behaviour and Structure on the Development of the *Solglimt* Survivor Camp

4.3.1 The Ship and the Camp

Similar activities to those discussed above exist in Gibbs' disaster-response and salvage models in which he explores a list of key categories and considerations that would help to understand both cultural and physical processes across different survivor camps (Gibbs 2003, 2006a, 2006b).

The first of these categories is the relationship between the localities of the shipwreck to that of the survivor camp. This category has already been touched on previously in this discussion. The layout of Ships Cove, with the valley quite close to the beach where the ship had finally foundered, presented a prime spot in which the survivors could set up camp. It had appeal in its close proximity to the remains of the ship which meant easier access to salvageable supplies but it also provided the necessary basic resources in the form of food, water and shelter.

4.3.2 Social Structure and the Development of the Camp

Extending further on from the notion of the relationship existing between the ship and the camp is a second category that looks at the "nature of transfer of authority and social structures from ship to shore" (Gibbs, 2006b:75). Included in this category is the impact of the shipboard culture on the development and organization of the camp itself (Gibbs, 2006b). Ships Cove has offered very little in terms of archaeological remains but the distribution and type of artefacts

found during the surveys and excavations can still provide some insight into the organisation of the camp. The remains of the timber found on the embankments of the beach and in the valley suggest that huts were built in both of these locations with the bulk of the timber and camp remains found in the valley. However, it was only the huts in the valley that had been investigated through excavation and the timber on the beach has yet to be explored in proper detail, therefore not much information is known about them. From the late nineteenth/early twentieth century dates that could be extracted from the ephemeral remains we know that the different sites in the valley were at least contemporary with the wreck of the *Solglimt*. The location of various concentrated scatters indicated the presence of several huts throughout the valley. The types of artefacts associated with these areas with the exception of one, suggested that this area was primarily used as a domestic area. Similar to the shipboard culture the living quarters were separated from the work space, such as the industrial site on the beach associated with the tripots. Another similarity that can be drawn with the spatial distribution of resources on-board the ship, is to the central storage for provisions and the cookhouse area. The cookhouse in this instance seems to represent the galley of a ship, a central point at which food is produced and disseminated to the officers and crew. Evidence for this is in the large scatter of timber, the remains of the stove and fragments of stoneware at site 1c.

In addition to the archaeological data, the historical accounts provide further support to the similarities between the shipboard culture and the organisation of the camp. The setup of the cookhouse is mentioned as one of the first priorities

after they had had started salvaging supplies from the wreck, Captain Ree remarks on this in the following excerpt:

First we built a house for provisions and cooking. We got the large stove from the galley ashore. It was a slow and heavy task, especially because there were high waves on the beach. But we succeeded and as soon as the stove was well ashore our need for daily bread was secured (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908).

Further to this is evidence of the separation of the larger groups into smaller groups that were responsible for building their respective huts. It would seem that the division between officers and crew that existed on-board the *Solglimt* and many shipboard cultures today, continued to exist within the camp. For example, as was mentioned in an excerpt in chapter two, the captain along with the higher ranked individuals such as the ships secretary, the mates, the engineers and the doctor joined together to build a hut. It would also seem that the survivors seemed to keep to the same roles that they had on-board such as the cook and the first mate who volunteered and would have taken the small boat to seek help (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908). This is also seen in the sixteenth and seventeenth century camps in South Africa. Looking at the characteristics of the survivor camps associated with Portuguese wrecks, van Tonder and Harris (2006) found that often the camps were divided in terms of social status and areas demarcated for specific purposes. An example of these characteristics is the separation of the captain and passengers from the crew (seamen) and soldiers such as in the case of the

São João. Another example is that of *São Gonçalo* (1630) camp remains found in Plettenberg Bay, South Africa. During the study of the camp two distinct areas of activity were found, this was the main camp site which included wooden structures and a church as well as a workshop area that contained concentrations of slag and charcoal (Smith, 1986; Van Tonder & Harris, 2006). Again, the separation of domestic and industrial areas is apparent.

It is however difficult to discern if the same authority structures existed post event. Did the Captain maintain the same level of authority due to his position and did the crews still pay heed to this or to their contracts? As was mentioned in chapter two, often crews were only employed for the season and paid on a lay system. This meant that they only received a wage once a profit was made or received no wages and a portion of what was caught for the season (Asbjørn Bjørnstad, 14 November 1908; Best, 1973; Lawrence & Davies, 2011). If this was the case with regards to the *Solglimt*, the crew would have lost their wages with the loss of the vessel and essentially their catch. Despite this, from the accounts it would seem that some form of social cohesion still existed that allowed for the immediate salvage of supplies, the setup of camp and an escape plan evolving. However, it is also evident that, after the main crisis had been averted, some of the crew no longer felt any loyalty to their contracts and the shipboard hierarchy.

At first most of them were just terrified, but as soon as they realized that the immediate danger had passed, they changed. Little by little they snuck away from work and started to wander up the island to collect eggs and kill birds for fun. At night we lit a large bonfire on the

beach, but as it was bitterly cold we all froze terribly. A lot of provisions were stolen. Crates and barrels were broken up, and the contents was scattered all over the ground. Boxes were opened, partly eaten and then tossed away. The result was that some got sick so they could not work. Many understood however that this was no way to behave. And thanks to these, we regained order, and got quite a lot of the provisions ashore (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908).

From this excerpt though, it would seem that instead of any particular deference to the previous hierarchy that the social cohesion seemed to come from the common sense of the majority and possibly the mutual need to survive.

4.3.3 The Need to Subsist

A third category listed by Gibbs and which has already been touched on previously with regards to Clark and de Birans four-activity framework, is that of subsistence. Very little evidence has remained behind in the archaeological record of any subsistence strategy different to what they had on-board the ship. Except for the remnants of the cookhouse at site 1c and the fragments of glass and ceramics found in most of the loci, there does not seem to be any archaeological remains that would indicate that the survivors were subsisting off any of the local fauna or flora. Fortunately, we are able to infer from the historical accounts that there wasn't a need for them to subsist primarily off the islands resources except possibly for the need of freshwater. If their rescue hadn't come when it did, it is likely that a shift would have occurred but according to Captain Ree's account they had at least three months of provisions

which included flour for their daily bread, coal and gasoline. Mention is made though of the killing of birds, the collection of eggs as well as the killing of seals. However, it is not certain whether the killing of local fauna was needed to supplement their current supplies or if it was mostly for fun, as indicated by Ree in the above excerpt. It could possibly have been for both of these reasons (Asbjørn Bjørnstad, 18 November 1908; Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908; Gibbs, 2006b).

4.3.4 The Use of Material Culture

The next category that Gibbs (2006b) lists is that of the material culture present within the survivor camp. We know from both the archaeological data and the historical accounts that their supplies came mostly from the remains of the wreck. Due to the lack of trees on the island, all the wood would have come mainly from the ship along with supplies such as tarpaulin, nails etc. that they would have used to create shelter. Again, this speaks to the dependency and on-going relationship the survivors had with the ship. Supplies had to be adapted into a new environment, for example, the wood from the ship was used to construct the floors or walls of huts. The tarpaulin was used to cover existing natural shelters and iron nails were used to attach this to rock faces. This is evident at the lower shelter that still has iron nails embedded in the walls above the opening. Once again it is uncertain to what extent the survivors interacted with the local environment and their use of the flora and fauna as this is not evident in either the archaeological data or the historical accounts. This is unlike that which is seen at Heard Island, where archaeological surveys over the years have recorded over thirty sites on the island, mainly related to sealers coming

from America. These sites, similarly to those on Marion Island, included domestic sites in the form of hut remains, glass and ceramic fragments, pieces of cast iron stoves and timber. The sites also included industrial sites in the form of trywork remains such as trypots and barrel staves. Different to the remains on Marion Island however archaeologists mention the use of “seal skins or grass thatch nailed over wooden or whale-bone rafters” and shows evidence of the survivors on Heard Island making use of local resources (McGowan, 2000 in Lawrence & Davies, 2011: 100).

4.3.5 Shelters and Structures

Following on from the nature of the material culture evident in Ships Cove, is the next category that looks at the use and distribution of shelters and structures (Gibbs, 2006b). This is another category that overlaps with the activities mentioned earlier in Clark and de Birans (2010) framework; in this case it is habitation. Already mentioned in this discussion is the use of rock overhangs adapted to form shelter and the use of timber from the ship to build huts. Most of these were located in the valley and from the records we know that the structures were used for habitation as well as storage for provisions. What hasn't been explored in this chapter is the presence of Skromberga bricks at sites 1b and 1c. This is the same type of brick which was found stacked in the port side boiler of the wreck. The occurrence of the bricks on both the land sites and the underwater site has given further evidence that these sites were contemporary to the wreck of the *Solglimt*. What is not clear though is the use of

the bricks on the land sites. Bricks are often carried as ballast⁶ on a ship or for use in preventing the spread of fire during the process of boiling the blubber, which would explain their presence on the ship (Lawrence & Davies, 2011). However, only a small number of bricks and fragments were found on land at sites 1b and 1c. It is possible that these were used either in a similar way especially in the context of the cookhouse or even as additional building material but further evidence needs to be gathered before this argument can be fully substantiated.

Another interesting point to consider is the possible evidence of an earlier structure in the top shelter located in the valley. During his excavation, Tom Graham had found the remains of wooden posts, floor and wall planking that indicated the ruins of a hut and other artefacts which suggested the remains were associated with the *Solglimt* survivor camp. Beneath these remains he had found additional planking that did not seem to be contemporary with the planking found on top (Graham, 1989). It is therefore possible that the *Solglimt* survivors were re-using areas or shelters that were used by previous occupants in the valley. The remains in the shelter also indicate that at least two levels of occupation were evident in this location. Could this have been remains left behind by the *Uxor* survivors in 1841 or just sealers who had stayed for an extended period of time whilst hunting seals on the island? In his letter, Captain Ree refers to the remains of earlier boilers and huts that he had seen whilst on the island. Unfortunately, he does not say whether this was in Ships Cove or if he came across the remains when they had explored the rest of the island.

⁶ Ballast “Anything used solely to load the ship, for stability or submerging purposes.” In *Modern Shipbuilding Terms: Defined and illustrated* by F.F. Pease (1918:8).

Neither does he make any mention of them foraging supplies from camps left behind by earlier sealers except for the “diamonds” some of the crew had found inland which turned out to be pieces of glass, another detail that cannot be seen in the archaeological data either (Captain Harboe Ree, Letter to “Morgenbladet”, 4 December 1908). The earlier remains do however indicate the presence of sealers and the prior use of the island.

4.3.6 The Physical Well-being of the Survivors

The next category is that of health and mortality. Fortunately for the *Solglimt* survivors no one had died or been seriously injured during the wrecking event which meant that the whole crew had made it to shore. The only time that sickness was mentioned was when some of the crew misbehaved on the first night and broke into some of the provisions. The survivors had managed to save three months’ worth of food supplies which could have been supplemented with the local fauna. This meant that everyone was able to get three meals a day, despite the fact that they didn’t know when rescue would come. Luckily, they only had to wait a month before the *Beatrice L. Corkum* and *Agnes G. Donahue* showed up (Captain Harboe Ree, Letter to “Morgenbladet”, 4 December 1908).

4.3.7 An Escape Strategy

Despite the short period that they were stranded on Marion Island, the survivors still came up with both a short term strategy for subsistence and habitation as well as a longer term rescue strategy (Gibbs, 2006b) which is similar to Clark and de Birans (2010) escape activity. Although, little to no evidence to support

this was found in the archaeological record, it is made clear in the historical accounts that an escape plan was indeed developed. This has been alluded to throughout the discussion thus far. The following is an excerpt based on Captain Ree's discussion of this strategy:

We also saved our hunting boats and hauled them ashore, and as soon as we had built our houses we started to prepare one of them to try to sail to Africa...First mate Fevang from Nøtterø was meant to go with the boat. It was big and spacious, and as we had a lot different material, it was easy to make an excellent seagoing boat of it. A large and strong keel equipped with heavy iron fittings was made, and over the boat iron hoops were raised and covered with canvas. It was equipped with floatation tanks and was unsinkable. Mast and rigging were raised, sails were sewn and the boat was almost ready to go when rescue came (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908).

In addition to equipping the boat, the survivors employed another part to this strategy. This was to keep a look out for ships passing the Prince Edward Islands. Once they had spotted a ship, a runner notified the captain and the rest of the crew. A boat was then sent out under the command of the first mate, whilst the rest of crew signalled the vessel by building a large bonfire with lots of smoke and shooting off the shotguns to draw attention (Asbjørn Bjørnstad, 14 November 1908; Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908). Compared to sites such as the camp associated with the *Sydney Cove* wreck (1797) on Preservation Island in the Bass Strait (Nash, 2002; Gibbs,

2006b) or even that of the *Seabird* on the Prince Edward Island in 1912 (Marsh, 1948), the *Solglimt* camp was only a temporary but well-resourced situation.

The *Sydney Cove* camp was occupied for twelve months and survivors had to build extensive developments to ensure that they could survive. The site progressed from an initial temporary solution to a more permanent setup which can be seen from the transition of tents to wooden buildings, the digging of a well, and the construction of a smokehouse for their fresh catches as well as a lookout and signal cairn (Gibbs, 2006a). In the case of the *Seabird*, the survivors were able to salvage very little from the wreck only having a month's supply of provisions, so a large part had to be sourced from local fauna. Their shelter on Prince Edward was in the form of a cave and they used seal blubber to fuel their fires. Part of their escape strategy was to head over to Marion Island where they came across the remains of the *Solglimt* camp and proceeded to forage regularly from these supplies over the months they were stranded on Prince Edward. When their supplies eventually ran out they moved entirely across to Marion Island and situated themselves in the Ships Cove camp (Marsh, 1948).

Even though Gibbs (2006b) refers to the above actions as a rescue strategy, it would seem the term "escape" strategy used by Keates is a more suitable description for this activity (Clark & de Biran, 2010), as it is more the survivors' response to the crisis than the action of those doing the rescuing. This is especially the case in the context of the *Solglimt* camp; as it was only by chance that they were rescued by the *Beatrice L. Corkum* and the *Agnes G. Donahue*.

The situation might be different for other vessels for which the owners had risk management strategies in place before their departures. After all, the nature of the industry was full of risks, as sealers continuously ventured further and further away from their homelands in search of better or new hunting grounds. One example of this strategy was that often shore-camps or supply depots were left behind on the islands, such as the camps established by the Spanish and Dutch in the Pacific (Clark & de Biran, 2010) or the British supply depot on the Crozet Islands that was used by Captain Ree and the crew of the *Catherine* in 1906 (Marsh, 1948). A further example of this latter strategy is the practice of sending rescue expeditions after a ship had gone missing, such as was the case of the *Wakefield* that went in search of the crew of the *Waratah* in March 1910 and came across the remains of the *Solglimt* survivor camp on Marion Island (Marsh, 1948).

4.3.8 The Survivor Camp as a Contact Site

Another category listed by Gibbs, is the consideration of the survivor camp as a contact site between different cultural groups i.e. such as trade or tensions between the survivors and the local/indigenous groups living on the islands (Gibbs, 2006b). Unlike the Australasian islands mentioned previously such as the Palau Islands or Heard Island (Clark & de Biran, 2010; Lawrence & Davies, 2011), the only human habitation that occurred on the Prince Edward Islands was that of the irregular visitations by sealers. At the time the *Solglimt* survivors were there, Marion Island seemed to have been deserted for the time being. Therefore this category cannot be suitably applied in the context of the *Solglimt* survivors. However, one could still argue that it was a contact site between the

Norwegian sealers and the Nova Scotian sealers that later came to their rescue, although most of the cultural exchanges would have occurred on board the ships as they travelled back to South Africa. The survivor camp was still the point at which initial contact would have been initiated. For example, Asbjørn mentions how he had taken some of the American sealers with him to hunt and they had helped him to remove the fur and blubber of a seal he had killed. He also mentions that they were somewhat impressed with the way he had killed the seal (Asbjørn Bjørnstad, 18 November 1908). Another example is when he was on-board one of the ships and Asbjørn describes how he used his time to learn and practice his English by talking to the Americans (Asbjørn Bjørnstad, 27 November 1908). Both of these are a form of cultural exchange between two different groups, one an exchange of skill and the other an exchange of languages.

4.3.9 The Process of Salvage

Following this is the salvage category; this activity can be seen taking place throughout the development of the camp even up until the survivors had left the island (Gibbs, 2006b). It is also an activity that could be seen as forming part of the subsistence, habitation and escape strategies discussed earlier. Both the archaeological remains and the historical accounts give evidence of the survivors salvaging what Gibbs calls the essential as well as non-essential goods from the remains of the wreck (Gibbs, 2006b). Essential items can be described as the primary basic supplies needed for survival. These were items such as food, clothing, the galley stove, fuel, shotguns, tarpaulin and timber which could be used to build shelter. Amongst these items one can see supplies

associated firstly with subsistence but also with habitation and defence in mind. Non-essential items can be described as secondary supplies that would add to their comfort or assist them later in their escape strategies. These are items such as the fireplace removed from the ship and placed in the Captains hut for heat, tables and chairs found later in one of the huts, a ladder that was found and photographed at the site or the mast hoop and the bilge pump found in the lower rock shelter. In addition to these are items that were used as part of their escape plan such as the boat which could also be viewed as an essential item but also items such as the iron fittings, additional timber for the keel and building materials such as the iron nails (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908; Marsh, 1948; Bernie Schaaf Image, 1951/1952 pers. comm. Cooper, 2016). This activity is seen in the context of other survivor camps as well, such as in the historical accounts of the *Sydney Cove* site where "survivors had utilized different parts of the shipwreck for construction purposes-including galley bricks, hull timbers and copper alloy fastenings" (Gibbs, 2006b: 73). In both situations the survivors are salvaging as much as they can and making use of different types of materials. Goods salvaged came from not only the cargo or food provisions but from the structure of ship, furnishings inside the living quarters and other miscellaneous items found on-board.

The salvaging activity seemed to be an on-going process not only throughout the development of the camp but after it had been abandoned as well. Starting as a response to a crisis it began as a process of subsistence with the survivors salvaging as many as possible of the essential supplies that would help them

survive. It then turned into a process of adaptation whereby the survivors were salvaging the remains in order to re-use them in the camp or to build another vessel that would assist in their escape. Later it became more of an opportunistic type of salvage especially after the large storm that broke the ship in two and scattered wreck debris everywhere in the bay (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908). Once rescue came, both the remains of the wreck and the survivor camp became available for salvage. This is evident in both the historical accounts and in the manner that the sites were used afterwards leaving them in the condition that they are found today. In his journal Asbjørn tells of how the captains of both the Nova Scotian schooners had come ashore to see what they could salvage from the wreck debris. When it became time for them to leave the island they also took items of clothes and food from their provisions to supplement the food supplies aboard the schooners which had much smaller crews (Asbjørn Bjørnstad, 16 November 1908; Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908).

Once abandoned, the site itself then became a sort of supply depot for sealers and scientists coming to the islands later on. As the British supply depot had aided the crew of the *Catherine* (1906), the *Solglimt* survivor camp (1908) aided the crew the schooners left behind to hunt seals whilst they returned to South Africa and the survivors of the *Seabird* (1912) who had run out of their supplies on Prince Edward and came over to Marion Island to make use of the camp and its provisions (Marsh, 1948). Over the following years, many of the items on the site were removed and taken as souvenirs before and after annexation of the islands. This is seen in the accounts of and photographs taken by scientists,

members of the overwintering teams and historical/archaeological surveys carried out by individuals such as John Cooper and Graham Avery (1986), Tom Graham (1989) as well as Jaco Boshoff and his teams (1997 to 2014). It is therefore apparent that different types of salvaging had occurred to both the underwater and land sites associated with the *Solglimt*. These included salvage for survival as well as opportunistic salvage. Unfortunately, due to its location the wreck could not be salvaged by the owners to replace any of their losses.

4.3.10 The Psychology of the Survivor

The last category on Gibbs list is that of the psychology of the survivors. This category is a bit different to the previous categories discussed as it explores the behaviour of the survivors following the crisis event as well as how the socio-cultural background of the wrecked individuals shaped the development of the camp (Gibbs, 2006b). The impact of this category also has an influence on all the activities that were taking place in the camp. The question is what sort of indicators would one look for and what predispositional traits should be taken into account? Is this the natural human instinct to survive such as the fight or flight response; are these skills garnered from years of experience either in a specific trade or just a once off occurrence and the effect of cultural behaviour possibly influenced by upbringing, nationality or a specific lifestyle such as life aboard a ship? Also should the influence of individual personalities and relationships among certain people or groups be taken into account? The reality is that there are so many factors that could affect an individual's behaviour and a situation of crisis that puts immense pressure on the person, could amplify either good or bad traits.

Once again the evidence available to explore these factors are mostly seen in the historical accounts by individuals such as Captain Ree and Asbjørn Bjørnstad, the ship's secretary, rather than what was left behind in the archaeological record. What the archaeological remains show us is the way that the area was domesticated through the manner that the camp was laid out, the distribution of activity, what resources were chosen for the construction of shelters and huts and the types of artefacts that were used at the survivor camp. From the results of the surveys and excavations, we can see that there was a separation between domestic and industrial spaces. The domestic area was situated in a sheltered valley whilst the industrial area was located on the beach near the Elephant Seals and King Penguins. Further to this, the domestic area was separated into several loci suggesting that a number of individual huts were erected alongside what seemed to be the cookhouse/provisions storage in the centre of it all. What could also be seen was the use of pre-existing natural rock overhangs that were adapted into shelters. Most of the hut remains and the two rock shelters were located on high lying areas whilst the cookhouse (site 1c) was located in a lower lying area. It is also evident that the sites in the valley were further separated into what could be described as private living spaces and a communal space for cooking. The archaeological remains correspondingly indicate that the survivors were using building material such as timber, iron nails and parts of the ship in the construction of their camp. In addition to this, ceramics, glassware and ammunition found at the sites seem to be contemporary with that of the wreck and gives further evidence of the supplies that were taken from the *Solglimt* (1908). In essence what can be seen

happening in the development of the camp post-impact, is that the survivors are still largely dependent on the ship and its resources, much in the same way they had been when they were out on the open ocean. Despite being on dry land, they still found themselves in an isolated and barren environment. Except now their access to the rest of the world had been downsized from a large ship to a smaller boat that could only take a few people.

Even though their food provisions salvaged from the ship were finite, the island still provided them with resources in the form of food, fresh water and rustic shelter. The island in addition to their circumstances of being an only male crew, did not, however, provide a landscape that would have been suitable for long term settlement and a thriving population. It could therefore be nothing more than only a temporary solution. Compared to other survivor camps, this might have been a different situation such as in the examples of the survivors of the *Haerlem*, *São João*, *Antelope* or *Sydney Cove* sites where the areas were already home to indigenous groups and assimilation into the population would at least have been a possibility (Mavridinov, 1995; Nash, 2002; van Tonder & Harris, 2006; Clark & De Biran, 2010).

In the historical accounts, we get a better understanding of the survivor's behaviour from the first-hand accounts of Captain Ree and Asbjørn Bjørnstad. In their observations they make it clear that some of the crew did not behave in a well-disciplined way before or after the event. They also mention tensions on-board such as the mutiny, so it is interesting to see how these manifested within the camp (Asbjørn Bjørnstad, 29 November 1908; Captain Harboe Ree, Letter

to “Morgenbladet”, 4 December 1908). It should however be noted that these accounts are from individuals who would have both been part of the higher ranks and not the lower ranks. So perspective could be skewed.

One way in which to look at the psychology of the survivors is to look at the way they responded to the immediate crisis of the wrecking of the ship, the way they responded to the situation after the danger had passed and their reactions to eventually being rescued (Gibbs, 2006b). Although, some of these responses have been mentioned before in relation to the previous categories; they will be echoed here in order to understand them in the context of the psychology of the survivor.

At the time of the event, the *Solglimt* had a large crew of seventy five men. Some of these men were on-board the vessel at the time whilst others were in small boats checking the bay and checking boat equipment such as the motors (Ship Control Journal nr.841, 1909). The crew came from five different areas with most of the men coming from the area of Tønsberg, however all were from Norway. The age of the crew ranged from the oldest man at sixty-five to the youngest boy of fifteen. The crew also had a large range of occupations, skills and expertise. These ranged from the officers such as the Captain, the mates, the ship’s secretary, the doctor to engineers, seaman, boilers and artisans such as the carpenters, the smith, the baker and the cook (Crews list Ship Control Journal nr.841, 1909). So from the Captain to the lowly ranks of the deck and kitchen boys, we see a wide range in skills, age and experience on board the ship. This variety of skills and experience present among the group of survivors

would have therefore been a great asset to the development of the camp. From the moment the wreck had hit the submerged reef and the ship foundered on the beach, the crew responded quickly to the crisis by tying lines to shore and worked together removing as many of the supplies as they could. The only time dissension was mentioned was when the immediate danger had passed and people started skiving off the unpleasant work and later stealing from the supplies. Two types of behavioural patterns seem to be taking place. First, we see the response to the crisis by working as a group to secure as many supplies as possible for future survival. Once this was accomplished, loyalty shifted from the group to the individual, and it seemed to become every man for himself. In both cases what is evident is that self-preservation would have been a driving factor. However, once it was made clear that the majority of the survivors' would not stand for such selfish behaviour, social cohesion and stability was once again attained. It would seem that the influence Captain Ree mentions of the older men on the younger members of the crew might have also come into effect. This is supported in the excerpt discussed under the second category, see page 86 (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908). This behaviour could also have been a way to test the authority structures in the group.

Once the danger had passed, we see the behaviour of the group changing towards adaptation and resignation to their new environment and circumstances. Similar to the archaeological data, the organisation of the camp seems to be a reflection of the shipboard culture. Ship material and structure were adapted to be reused as part of the survivors' camp. A hut was erected for

the cooking of food which would replace the galley on the ship. Living quarters were then constructed by various groups in a similar fashion to the way it had been between officers and crew on board the ship. It is uncertain what the make-up of the rest of the groups were but in the case of the captain and his hut mates we still see a distinction being made between their higher and the lower ranks. Further to this is the adaptation of resources to form an escape strategy such as the small hunting boat that was redesigned and refitted with furnishings for a longer journey at sea (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908). But when escape came in the form of rescue by the two Nova Scotian schooners, we see relief and the first signs of detachment from their camp and the minimal supplies that meant survival for them.

On a high hill, we lit a large bonfire of barrel staves, kerosene and gasoline. The next hours went by in great excitement... She had not seen the bonfire – more gasoline boys. We had no less than 4 barrels of gasoline ashore. We formed a line and handed buckets of gasoline to the bonfire on the hill and got a sky high flame. Now she had to see us (Captain Harboe Ree, Letter to "Morgenbladet", 4 December 1908).

One of the boats were launched in a hurry and manned in order to reach the boat before it disappeared again. The remaining crew immediately started gathering material for a bonfire; empty barrels, wood with tar and gasoline. To get as much smoke as possible, we then put peat on the bonfire. All the shotguns were also used hoping that the sound of the shots would be noticed (Asbjørn Bjørnstad, 14 November 1908).

In both excerpts, we see the change from the initial gathering and stockpiling of supplies to the use of any resources they could find that would ensure their escape from their isolated camp. In all aspects of their behaviour, actions and resources were adapted to whatever was necessary for self-preservation and long-term survival. Whether it was through the activity of subsistence, habitation or escape, the survivors showed a strong resilience and the skill to adapt to whatever situation presented itself. A question that should therefore be asked is whether this behavioural response was something they had already developed as a by-product of the harsh living conditions of a life at sea working far from homely comforts? What is evident though is the domestication of an unknown “wild” territory as a way of adapting and dealing with an unexpected and daunting situation. This is seen in the way that homely comforts are incorporated into the manner that shelters were built and furnished such as the fireplace placed in the Captain and officers hut. Each hut was also given a name and could have been one way in which they personalized spaces to make it feel more like home and the situation more bearable (see excerpt in chapter 2, page 35). Whether this question is something that can be answered within the limitations of this dissertation is uncertain. Nevertheless, what has been most apparent throughout the discussion is that it is clear that there seems to have been an underlying theme showing a constant connection between the ship and that of the survivor camp site.

Chapter 5

Conclusion

So can it be said that survivors function best in times of peril? This dissertation has inadvertently attempted to explore this popular phrase and whether or not it could be applied to the survivors of the *SS Solglimt*. It can be argued that the research has illustrated that in the case of the survivor camp in Ships Cove this statement was indeed true to some extent. Through the discussion it was evident that at least the majority of the crew of the *Solglimt* had the presence of mind as well as the necessary skills and ability to adapt to a new landscape after disaster struck, which resulted in them losing their ship in the middle of nowhere. Despite the odds, they were able to find enough resources and utilise old supplies in new ways that would allow them to survive on Marion Island until they were rescued.

Through the analysis of the archaeological data and historical documents the research was able to discern that the remains investigated in Ships Cove, were indeed associated with that of the wreck of the *SS Solglimt*. It was also evident that several activities were taking place at least during the time that the area was occupied by the crew of the *Solglimt*. Using Clark and de Birans (2010) approach alongside Gibbs' (2006b) list of categories and considerations to explore the data, it is clear that similar activities can be seen taking place across different survivor camps. In the context of Ships Cove, we see remains

of both land and underwater sites within close proximity to each other. Throughout the discussion it is apparent that there is a constant relationship taking place between the ship and the survivor. This was seen through the salvaging of supplies and the re-use of the physical remains of the ship as well as the similarities between the on-board culture and the organisation of the survivor camp.

It is also evident that both domestic and industrial activities were taking place in the area - where the valley was associated with artefacts of a domestic nature; the beach was associated with industrial-type artefacts. Although we know that the sealers had initially come to the island to hunt seals, it is not clear whether or not this activity still continued to take place after the survivors had been marooned on the island. It is possible that the use of the industrial equipment such as the try pots were still used to some extent and possibly by the crew that were left behind on the island to hunt by the *Beatrice L. Corkum* and the *Agnes G. Donahue* (Captain Harboe Ree, Letter to Morgenbladet, 4 December 1908). It is however, amongst the remains in the domestic area i.e. the valley that we find the most interesting dynamics appearing. This area not only formed the main focus for this research but would have been the most developed in terms of the camp. The activity happening in the valley could be further divided into areas of “private” living space versus that of a communal space. Even though the cookhouse/provisions store would have been a work space for individuals such as the cook or baker, it was still a domestic space where the rest of the crew would have received their daily meals.

In addition to the domestic and industrial activities, we see many other forms of activities occurring throughout the development of the camp. Gibbs (2006b) refers to these different forms of activities as categories which help to further define the behavioural patterns of the survivors. Some of these categories overlap with the four activities discussed by Clark and de Biran (2010) and the characteristics of Portuguese survivor camps discussed by van Tonder and Harris (2006). These are subsistence, habitation, an escape strategy and defence, and seem to be the main activities driving the development of the different survivor camps. Further to these, we see other activities taking place in relation to the main categories. These are:

- The relationship between the wreck and that of the survivor camp as mentioned previously;
- The domestication of an unknown territory as a form of adaptation;
- The social hierarchy present within the group and the organisation of the camp;
- The nature of the material culture that was being used within the camp.
- The effects of health and mortality on the group;
- The consideration of the survivor camp as a site of contact between different cultural groups;
- The constant salvaging process;
- And lastly, the psychology of the survivors seen throughout the event, the development of the camp and the abandonment of the site.

It is evident throughout the discussion that these activities or categories were taking place in the context of the *Solglimt* survivor camp as it did in the similar

contexts of the *Antelope* (1783) survivor camp as well as the camps associated with sealers at the *Sydney Cove* wreck site (1797), and on Heard or the Macquarie Islands (Nash, 2002; Gibbs, 2006b; Clark & de Biran, 2010; Lawrence & Davies, 2011). Beyond camps associated with sealers, it was also evident that similar activities were taking place across survivor camps in general such as at the sixteenth and seventeenth camps of the *Haerlem* (1647), *São Gonçalo* (1630) or *São João* (1552) found in South Africa. The main question that seems to unfold from the above discussions is what was the ultimate driving force behind all of these activities and the common factor for all of these individuals? The self-explanatory answer seems to be self-preservation and long term survival.

Thus far the discussion has already answered three of the research questions posed at the beginning of this dissertation but can we see different levels of occupation occurring in Ships Cove? The answer is simply yes; this can be seen in both the archaeological remains and the historical data. From the archaeological remains, we see possibly two levels of occupation. This was not seen in the 2013 excavation but in the earlier structure found below the hut remains in the top shelter excavated in 1989 by Tom Graham. If this meant that the remains were indeed from two different structures, it is possible that two levels of occupation occurred in this one spot and could suggest that the *Solglimt* survivors were re-using sites and/or materials left behind by earlier sealers. The historical records however suggest that there were at least four levels of occupation that took place in Ships Cove. The first was possibly that of the *Uxor* that went missing in 1841 and was said to have wrecked on Marion

Island, mention of earlier remains are also made by Captain Ree in his account of their experience (Graham, 1989). Although, it is uncertain whether these remains were discovered in Ships Cove or later when they had ventured further onto the island. The second was that of the *Solglimt* survivor camp in 1908 which has been supported through both the archaeological and historical data. Once the camp had been abandoned, it was then immediately re-used by some of the crew of the *Beatrice L. Corkum* and the *Agnes G. Donahue* who had been left behind (Captain Harboe Ree, Letter to Morgenbladet, 4 December 1908). The fourth occupation is that of the crew of the *Seabird*, which wrecked on Prince Edward Island in 1912, who then made their way over to Marion Island to make use of the provisions left behind in the *Solglimt* camp (Marsh, 1948).

It is possible that more episodes of occupation took place within Ships Cove; it is certainly known that sealers were making use of the islands much earlier and stayed for long periods at a time. It is not within the scope of this dissertation to be able to prove this nor does it take into consideration events post-annexation of the island. It is however quite reasonable to assume that there was indeed more than one episode in which Ships Cove was occupied. This can be seen from the archaeological data and the historical accounts used in this research and used to support the arguments in the discussion.

Further, what is illustrated in this research is that the survivors depended primarily on the wreck much in the same way they had before it foundered. This led to a constant relationship between the ship and its crew which could be

seen through the salvage of necessary supplies and in the way that the camp was organised. It also seems evident that the high risk and hard life aboard a sealing vessel had prepared the crew with the skills necessary to adapt to a situation such as they found themselves in at Marion Island. What is also seen in the context of the survivor camp is the temporary nature of attachment that the survivors had to material things. An object or place was only of value so long as it had served its purpose towards the self-preservation of the individual or the survival of the group. Once it was no longer an object of necessity it was abandoned much the same way as the ship and survivor camp were abandoned. It could, however, be argued that this seems to be human nature in general, objects are generally discarded when they are no longer of use to the owner. Through the archaeological remains alone it would not have been possible to see these different periods of occupation nor understand the different factors influencing the development of the survivor camp. However, once combined with the historical documents and accounts by Captain Ree and the journal excerpts of the ship's secretary as well as other research conducted on the history of the Prince Edward Islands, this dissertation was able to better explore the events of the wrecking of the *SS Solglimt* and the subsequent development of the survivor camp in Ships Cove, Marion Island.

The research encountered many limitations, firstly in the restricted access that researchers had to the islands. As mentioned in the second chapter, relief voyages that allowed scientists to go over to the Prince Edward Islands occurred only once a year. Once there, researchers were limited to only four weeks in which they could carry out their studies whilst hampered by difficult

terrain as well as bad weather conditions. Secondly, due to limited time, only certain areas could be investigated through sub-surface investigations and only a small number of artefacts were removed for further study. Even though quite a number of concentrated areas existed around the valley and on the beach, most of the remains tended to be in the form of timber with very few artefacts such as ceramics, glassware or other items that would have been used by the sealers found in the assemblages. The archaeological remains also lacked any indication of the survivors exploiting the local fauna with no evidence such as the remains of fur skins or butchered animal bones present in any of the surveyed areas. This could be due to a number of reasons but the ephemeral remains leftover today is due in large part to both historical and modern looting of the sites. This has presented many conservation issues over the years for the cultural remains on the islands especially Marion Island.

It was only through the historical documents collected by the Antarctic Legacy of South Africa Project that had generously passed on the information to the Archaeologies of Antarctica Project and thus the author of this dissertation; that a better understanding of the archaeological remains could be formed. Nevertheless and with many thanks to the above projects, this dissertation was able to achieve its main objectives. The research was able to expand on previous work carried out in Ships Cove by Tom Graham (1989) and add to what is already known of Marion Island but from an archaeological and anthropological perspective. It was able to further explore the remains and substantiate the claims that it was indeed the remains of the *Solglimt* survivor camp still present in Ships Cove today. And lastly, by applying the theoretical

models of Gibbs (2003, 2006a & 2006b) as well as Clark and de Biran (2010), the research was able to contextualise the remains of the survivor camp within a larger international discourse surrounding the behaviour of survivors in response to crises such as shipwreck events and the organisation of subsequent survivor camps. Hopefully this research has added valuable information to what is currently known and understood about survivor camps in South Africa and abroad. More importantly it has attempted to broaden the current maritime archaeology discourse in South Africa and will hopefully lead to further study in this area as the field continues to grow.

Although, this research adds to our understanding of the remains on Marion Island there is still an extensive amount of work that needs to be conducted that couldn't be explored within the scope of this dissertation. It is therefore highly recommended that the remains scattered around both of the Prince Edward Islands be recorded and studied in greater detail. Through the concerted efforts of individuals such as Cooper and Avery (1986), Graham (1989), Boshoff and his various teams (1997 to 2014) and Hince (2008) the cultural remains around the island have been recorded but detailed archaeological investigation of these remains has been episodic and more is needed. It is therefore hoped that this research will provide valuable information to the work of the Archaeologies of Antarctica Project that aims to provide a cohesive management plan for cultural heritage of the Prince Edward Islands.

Reference list

Primary Sources

Asbjørn Bjørnstad. *Diary Excerpts* 14 November to 5 December 1908, transl. by A. Evensen.

Captain Anders Harboe-Ree. *Letter to Morgenbladet*, 4 December 1908, transl. A. Evensen.

General Dispatches: Exploitation of Marion Island and Prince Edward's Island. 16 June to 27 July 1909. Cape Town Archives Repository.

Kristiania Ship Control Journal nr. 841, 1909, transl. by A. Evensen.

S.S. Harbinger. *Sunderland Board of Trade Court Report*, 30 November 1892.

Newspaper Articles

Castaway seal hunters. *Newcastle Daily Chronicle*, 9 January, 1909.

South seas crusoes: Ships crew on Marion Island. *Wellington Evening Post*, 17 February 1909:10.

Maps

Location of the Prince Edward Islands in relation to South Africa. Google Earth Image retrieved 2 September 2016, 10:53am.

Sub Antarctic Region Map, retrieved 01 Sep 2016, 15:03pm from <http://www.antarctica.gov.au/magazine/2011-2015/issue-21-2011/subantarctic-forum/subantarctic-islands-in-the-spotlight>.

World Map, retrieved 2 September 2016, 11:04am from https://upload.wikimedia.org/wikipedia/commons/9/91/Winkel_triple_projection_SW.jpg.

Personal Correspondence

Cooper, J. 2016. Email 16 June. john.cooper61@gmail.com. Antarctic Legacy of South Africa.

Cottee, E. 2016. Email 22 April. ethancottee@gmail.com. IZIKO Museums of South Africa.

Publications/Articles/Reports

Best, P.B. 1973. Seals and sealing in south and south west Africa. *The South African Shipping News and Fishing Industry Review* December: 49-55.

Booth, A.R. 1964. American whalers in South African waters. *The South African Journal of Economics* 32(4): 278-282.

Boshoff, J. J., Hart, D. and Looock, J. 1997. *Survey of historical sites on Marion Island*. Cape Town: Report for the National Monuments Council.

Boshoff, J. J. and van Schalkwyk, J. 1999. *The archaeology of sealing sites on Marion Island*. Cape Town: Report for the National Monuments Council.

Boshoff, J., Van Niekerk, T. and Wares, H. 2015. Preliminary investigations on the wreck of the SS Solglimt, Marion Island. *Bulletin of the Australasian Institute for Maritime Archaeology* 39: 53–59.

Burger, E. 2002. *The Port Edward project 2002: A progress report on a maritime archaeological investigation of the São João wreck site and survivor camp*. Unpublished report, Department of Anthropology and Archaeology, University of Pretoria.

Burger, E. 2003. *Reinvestigating the wreck of the sixteenth century Portuguese galleon São João: A historical archaeological perspective*. Master's Thesis, University of Pretoria, Pretoria.

Chapman, F.P. 1977. Some notes on early whaling in False Bay. *Simon's Town Historical Society Bulletin* 9(4): 132-160.

Clark, G. and de Biran, A. 2010. Geophysical and archaeological investigation of the survivor-camp of the Antelope (1783) in the Palau Islands, Western Pacific. *The International Journal of Nautical Archaeology* 39(2): 345–356.

Cooper, J. and Avery, G. 1986. Historical sites at the Prince Edward Islands. *South African National Scientific Programmes Report* 128. Cape Town.

Cooper, J. and Headland, R.K. 1991. A history of South African involvement in Antarctica and the Prince Edward Islands. *South African Journal of Antarctic Research* 21(2): 77-91.

Cyr, P. (ed.) 1888. *With the Arctic whaling fleet: Writings and photographs of Herbert Aldrich*. Unknown Publisher.

David, J, and van Sittert, L. 2008. A reconstruction of the Cape (South African) fur seal harvest 1653-1899 and a comparison with the 20th-century harvest. *South African Journal of Science* 104(3-4): 107-110.

"Empire notes". 1911. *Journal of the Royal Society of Arts* 59(3075): 1102-1104.

Gallant, T.W. 1986. "Background noise" and site definition: A contribution to survey methodology. *Journal of Field Archaeology* 13(4): 403-418.

Garrat, D. 1994. *Norwegian bay whaling station*. Maritime Heritage Inspection Report. Western Australian Maritime Museum.

Gibbs, M. 2003. The archaeology of crisis: shipwreck survivor camps in Australasia. *Historical Archaeology* 37(1):128-145.

Gibbs, M. 2006a. Cultural site formation processes in maritime archaeology: Disaster response, salvage and Muckelroy 30 years on. *The International Journal of Nautical Archaeology* 35(4): 4–19.

Gibbs, M. 2006b. Maritime archaeology at the land–sea interface in Staniforth, M. and M. Nash (eds.) *Maritime archaeology: Australian Approaches*. Springer, US pp: 69–81.

Graham, T.A. 1989. *Cultural resource management of the Prince Edward Islands*. Unpublished Honours Thesis, University of Cape Town, Cape Town.

Hänel, C and Chown, S. 1998. *An introductory guide to the Marion and Prince Edward Island Special Nature Reserves: 50 years after annexation*. Department of Environmental Affairs and Tourism.

Hince, B. 2008. *The cultural history of the eastern hemisphere sub-Antarctic Islands*. Refereed papers from the 4th International Small Island Cultures Conference. The Turku archipelago, June 17th-20th.

Hindle, E. 1952. The whaling industry. *Journal of the Royal Society of Arts* 100(4864): 132-46.

Hine, P.J. 2008. *Stone walled fish traps: an archaeological and archival investigation*. Unpublished Masters Dissertation. Department of Archaeology, University of Cape Town, Cape Town.

Hine, P.J., Sealy, J., Halkett, D. and Hart, T. 2009. Antiquity of stone-walled tidal fish traps on the Cape coast, South Africa. *South African Archaeological Bulletin* 65(1):35–44.

Hjort, J. 1937. The story of whaling. *The Scientific Monthly* 45(1): 19-34.

Jones, J. 1996. *Archaeological sites*. Indiana Department of Natural Resources: Division of Historic Preservation and Archaeology.

Kandel, A. and Conard, N. 2003. Scavenging and processing of whale meat and blubber by later stone age people of the Geelbek dunes, Western Cape Province, South Africa. *The South African Archaeological Bulletin* 58(178): 91-93.

Lawrence, S and Davies, P. 2011. *An archaeology of Australia since 1788: Sealing, whaling and maritime industries*. Springer, New York pp: 95-114.

Marsh, J. H. 1948. *No pathway here*. Cape Town, Howard B. Timmins.

Mavrodinov, N. 1995. *An assessment of the maritime archaeological potential of the eastern coastline of Table Bay, between the old Salt River mouth and Blouberg*. Unpublished Master's Dissertation, University of Cape Town, Cape Town.

May, R.V. 1986. *Schooners, sloops and devil-fish: Research implications at 19th century shore whaling stations*. Symposium on the Maritime Tradition of Bay and Shore Whaling: Pioneering Implications and Economic Development.

Muckelroy, K. 1976. The integration of historical and archaeological data concerning an historic wreck site: The 'Kennemerland'. *World Archaeology* 7(3): 280-89.

Nash, M. 2002. The Sydney cove shipwreck project. *The International Journal of Nautical Archaeology* 31(1): 39-59.

Nash, M. 2004. *Investigation of a survivors camp from the Sydney cove shipwreck*. Maritime Archaeology Monograph and Reports Series No. 2, Dept. of Archaeology, Flinders University, Adelaide.

National Heritage Resources Act, Act 25 of 1999, *Government Gazette*, 28 April 1999, Vol. 406, No. 19974, Notice No. 506.

O'Shea, J.M. 2002. The archaeology of scattered wreck-sites: formation processes and shallow water archaeology in western Lake Huron. *The International Journal of Nautical Archaeology* 31(2): 211-227.

Pearson, M., Stehberg, R., Zarankin, A., Senatore, M and Gatica, C. 2010. Conserving the oldest historic sites in the Antarctic: the challenges in managing the sealing sites in the South Shetland Islands. *Polar Record* 46(236): 57-64.

Pease, F.F. 1918. *In modern shipbuilding terms: Defined and illustrated*. Philadelphia and London: The Washington Square Press p8.

Pham, C. L. 2012. *UNESCO training manual*. Appendix B: Basic Shipbuilding Terminology p6.

Reeves, R.R. and Smith, T.D. 2003. A taxonomy of world whaling: operations, eras, and data sources. *Northeast Fisheries Science Center Reference Document* 03(12).

Register, L. 1883. *Lloyd's Register of Shipping*. London: Wymans and Sons.

Rousset, T. J. 2011. *'Might is right' A study of the Cape Town/Crozets elephant seal oil trade (1832-1869)*. Unpublished Master's Thesis, University of Cape Town, Cape Town.

Smekalova, T., Voss, O. and Smekalov, S. 2005. *Magnetic survey in archaeology: 10 years of using of Overhauser GSM-19 gradiometer*. Saint Petersburg: Polytechnic University.

Smith, A. 1986. Excavations at Plettenberg Bay, South Africa of the camp-site of the survivors of the wreck of the São Gonçalo, 1630. *The International Journal of Nautical Archaeology and Underwater Exploration* 15(1): 53-63.

Smith, A. and Kinahan, J. 1984. The invisible whale. *World Archaeology* 16(1): 89-97.

South African National Antarctic Programme. 2010. *Prince Edward Islands Management Plan V 0.2*. Department of Environmental Affairs: Directorate of Antarctica and Islands.

Steffy, R. 1994. *Wooden ship building and the interpretation of shipwrecks*. College Station, Texas A&M University Press, Texas.

Townrow, K. 1988. Sealing sites on Macquarie Island: An archaeological survey. *Papers and Proceedings of the Royal Society of Tasmania* 122(1): 15-25.

Van Niekerk, T. 2014. *Grading of Marion Island as a grade 1 site*. Unpublished Report. South African Heritage Resources Agency.

Van Tonder, E. 2005. Shipwreck survivor camps: A neglected terrestrial component of maritime archaeology in South Africa. *Anthropology Southern Africa* 28(1-2): 49-56.

Van Tonder, E. 2006. Shipwrecks, survivors and tragedy: the potential for shipwreck survivor camp research in South Africa. *The Digging Stick* 23(3):9–12.

Van Tonder, E. and Harris, K.L. 2006. Searching for the São João survivor camp (1552): predictive models as a possible solution. *South African Journal of Cultural History* 20(1):29–56.

Webb, R.L. n.d. *Shore whaling: British Colombia and Alaska*. Unknown Publisher.

White, C. 2013. Burning man festival and the archaeology of ephemeral and temporary gatherings in P. Graves-Brown, R. Harrison & A. Piccini (eds.) *The Oxford Handbook of the Archaeology of the Contemporary World*. Oxford University Press, Oxford pp: 565-568.

Zarakin, A. and Senatore, M.X. 2005. Archaeology in Antarctica: nineteenth century capitalist strategies. *International Journal of Historical Archaeology* 9(1):43–56.

Websites

Skipshistorie. 1906 *DS Macfarlane*, retrieved on 28 June 2016 12:48pm from <http://www.skipshistorie.net/Horten/086ChrHannevig/Tekster/HRT08619060300000Macfarlane.htm> .

Wikipedia. n.d. *22 Long Rifle*, retrieved 17 May 2016 17:30 from https://en.wikipedia.org/w/index.php?title=.22_Long_Rifle&oldid=719425790.

Wikipedia n.d. *12.17X22mmRF*, retrieved 21 April 2016 14:38 from https://en.wikipedia.org/w/index.php?title=12.17x42mm_RF&oldid=698084288.

Wikipedia. n.d. *Skrombergaverken*, retrieved 1 September 2016 10:49am <https://sv.wikipedia.org/wiki/Skrombergaverken>.

Wrecksites. 2014. *Solglimt Whaler (Ex Cargo Ship) 1881-1908*, retrieved 19 October 2014 13:57pm from <http://www.wrecksites.edu/wreck.aspx?116348#>.

Appendix A

Cultural Heritage Sites on Marion Island

The following photographs were taken by the Archaeology of Antarctic Project in 2011 & 2013, unless otherwise stated.

Section 1: Artefacts associated with sites surveyed around Marion Island



Transvaal Cove



Image 1: Remains of old base (left) and the new science base (right) (2013)



Image 2: HMSAS Transvaal plaque (2013)



Image 3: Remains of Le Granges Villa (2013)



Image 4: Remains at the Governor's midden (2013)



Image 5: Unmarked grave of petty officer J.G. Bold (2013)

Mixed Pickle Cove



Image 6: Coiled cable (2011)



Image 7: Timber remains (2011)



**Image 8 & 9: Hut remains and contents found in hut (Bernie Schaaf 1951/52)
(Courtesy of the Antarctic Legacy of South Africa Project)**



**Image 10: Artefacts taken by
Louis Triegaardt (1978)
(Courtesy of the Antarctic Legacy of South Africa Project)**

**Image 11: Stove and timber remains
taken by E. Bakker (1965)**

Cape Davis



Image12: Timber remains (2011)

Image 13: Cast iron kettle (2013)



Image 14: Cast iron stove fragments



Image 15: Stoneware fragment (2013)

Sea Elephant Bay



Image 16 & 17: Stone wall remains (2013)

Trypot Beach



Image 18: Trypot (2013)



Image 19: Metal fragment (2013)

Archway Bay



Image 20 & 21: Timber remains (2011)

Bullard Beach



Image 22: Trypot (2011)



Image 23: Hut remains (2011)



Image 24 & 25: Remains of hut posts (2011)

Rooks Bay



Image 26: Timber remains (2011)



Image 27: Cast iron kettle, lid & disk (2011)



Image 28: Iron nail concretion (2011)



Image 29: Timber remains and glass bottle (2011)

Swartkop Point



Image 30: Inscription on wall (2011)



Image 31: Inter-leading shelters (2011)



Image 32: Timber remains, grinding stone inside shelter (2011)

Watertunnel



Image 33: Part of a seal harpoon (2011)



Image 34: Timber remains (2011)

Section 2: Ships Cove Artefacts

Remains of Wreck



**Image 35: Engine block and boilers
(Taken in 2011 by Andre Botha)**



Image 36: Bow & anchor chain

Beach Finds



Image 37 & 38: Trypot remains on beach (2013)



Image 39 & 40: Remains of hut timbers (above) and barrel staves (below) (2013)



Image 41: Barrel stave removed from beach for further analysis (2013)



**Image 42: Exposed timbers and bottles taken by Stefan Schoombie (2015)
(Courtesy of the Antarctic Legacy of South Africa Project)**

Rock Shelters



Photographed by A Crawford 1948



Photographed by T Graham 1989



Photographed by S Ouzman 2013

**Image 43-45: Remains of top rock shelter taken in 1948, 1989 & 2013.
(Crawford images Courtesy of Antarctic Legacy of South Africa Project)**



Image 46: Gudgeon (top shelter)



Image 47: Remains of hut post and planks in top shelter (2013)



Image 48: Timber remains (lower shelter)



Image 49: Part of a bilge pump



Image 50: Iron nails in rock wall above



Image 51: Mast step (lower shelter)



Image 52: Remains of a small boat and anchor, unknown location taken by Bernie Schaaf (1951/52) (Courtesy of Antarctic Legacy of South Africa Project)

Site 1a



Image 53 & 54: Cartridge cache in situ and afterwards in lab (2013)



Image 55: Wrought iron cargo hook

Image 56: Timber remains (2013)

Site 1b



Image 57: Glass bottle from embankment (2013)



Image 58: Wood fragments square 2 (2013)



Image 59: Glass and bullet square 3 (2013)



Image 60: Glass and bullet square 1



Image 61: Plank with paint remains from square 3 (2013)



Image 62: Bullet from square 4 (2013)

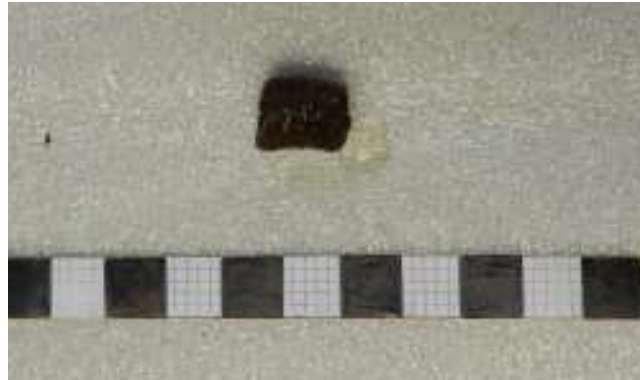


Image 63: Hollow metal tube square 4

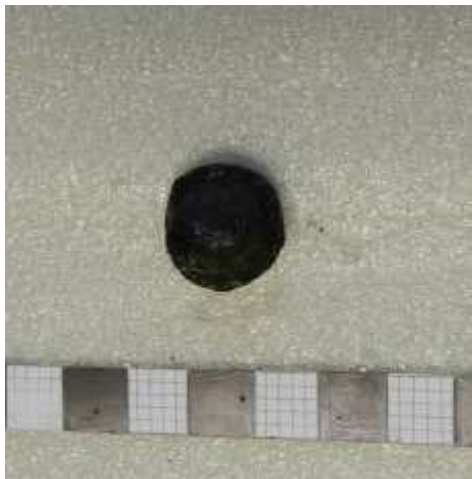


Image 64: Flattened bullet square 6 (2013)



Image 65: Red clay brick square 6



Image 66 & 67: Glass fragments cross-mended square 6 (2013)

Site 1c



Image 68: Stove and timber remains



Image 69: Timber and brick remains



Image taken of a stove and timber remains by Cecil Neuman (1956-58), possibly the same remains found at site 1c (Courtesy of Antarctic Legacy of South Africa Project)



Image 70: Skromberga brick & Stoneware (2013)



Image 71: Second Skromberga brick metal fragments and timber (2013)



Image 72 & 73: Brick fragments removed for further analysis in lab (2013)

Site 1d



Image 74: Iron hoop and timber (2011)



Image 75 & 76: Wood and coal fragments removed for further analysis (2013)